CFD-970

SERVICE MANUAL

US Model
Canadian Model

COMPACT disc DIGITAL AUDIO
MEGA BASS

CD Section	Model Name Using Similar Mechanism	CFD-55
	Optical Device Name	KSM-2101BAN
Tape Section	Model Name Using Similar Mechanism	CFS-905
	Tape Transport Mechanism Type	MF-905J-102

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 3.2-ohm loads, both channels driven from 150-15,000 Hz; rated 2 W per channel-minimum RMS power, with no more than 10 % total harmonic distortion in AC operation.

Other Specifications

CD player section

System: Compact disc digital audio system

Laser diode properties: Material: GaAlAs
Wave length: 780 nm
Emission duration: Continuous
Laser output: Less than 44.6 µW
(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block.)

Spindle speed: 200 r/min (rpm) to 500 r/min (rpm) (CLV)

Error correction: Sony Refined Super Strategy Cross Interleave Reed Solomon Code

Number of channels: 2

Frequency response: 20–20,000 Hz +1/–1.5 dB

Wow and flutter: Below measurable limit

Radio section

Frequency range: FM: 87.6–108 MHz
AM: 530–1,710 kHz

Antennas: FM: Telescopic antenna
AM: Built-in ferrite bar antenna

Cassette-corder section

Recording system: 4-track 2-channel stereo

Frequency response: TYPE I (normal) cassette: 70–10,000 Hz

General

Speaker: Full range: 10 cm dia., 3.2 ohms cone type

Inputs: Mixing microphone input jack (minijack): Sensitivity 2.5 mV For low impedance microphone

Outputs: Headphones jack (stereo minijack) For 16–64 ohms impedance headphones

Power output (excluding US model): 2.3 W + 2.3 W (at 3.2 ohms, 10% harmonic in DC operation)

Power requirements: 120 V AC, 60 Hz
DC 9 V, 6 size D (R20) batteries

Battery life: For CD radio cassette-corder:

	FM recording	Tape playback	CD playback
Sony SUM-1 (NS)	approx. 15 h	approx. 10 h	approx. 4 h
Sony Alkaline AM1	approx. 25 h	approx. 15 h	approx. 8 h

Dimensions: Approx. 450 × 166 × 285 mm (w/h/d) (17¾ × 6⅝ × 11¼ in.) incl. projecting parts

Mass: 4.2 kg (9 lb 4 oz) (incl. batteries)

Supplied accessories: AC power adaptor (AC-970) (1)

Design and specifications subject to change without notice.

CD RADIO CASSETTE-CORDER

SONY®

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

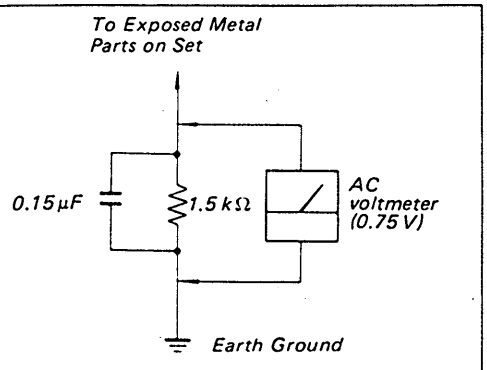

Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

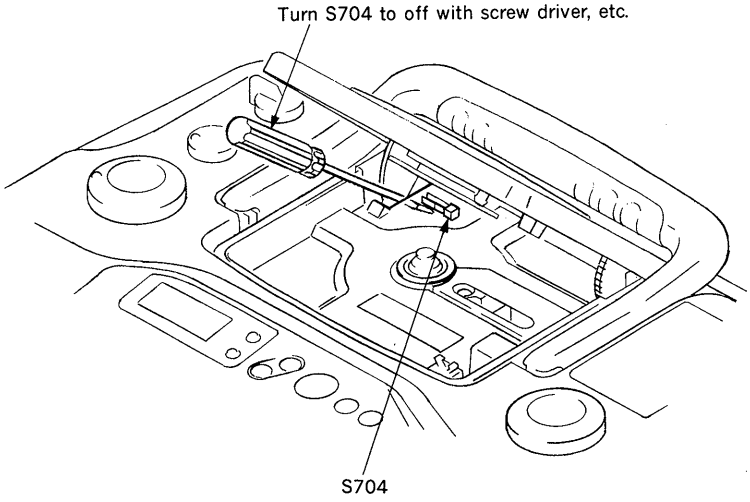
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

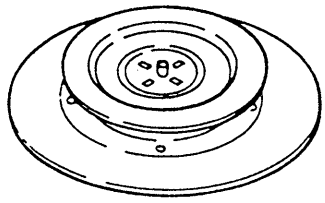
1. No disc inserted and make Function switch to CD position.
2. Open the lid for CD.
3. Turn on S704 as following figure.
4. Press ▷ PLAY key.
5. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down three times for the focus search.



CHUCK PLATE JIG ON REPAIRING

On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

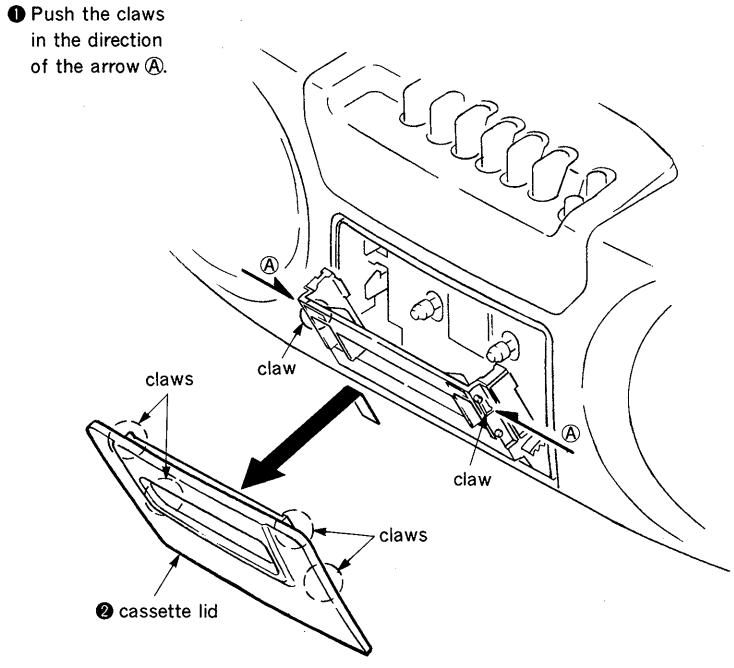
- Code number of Chuck Plate Jig : X-4918-255-1



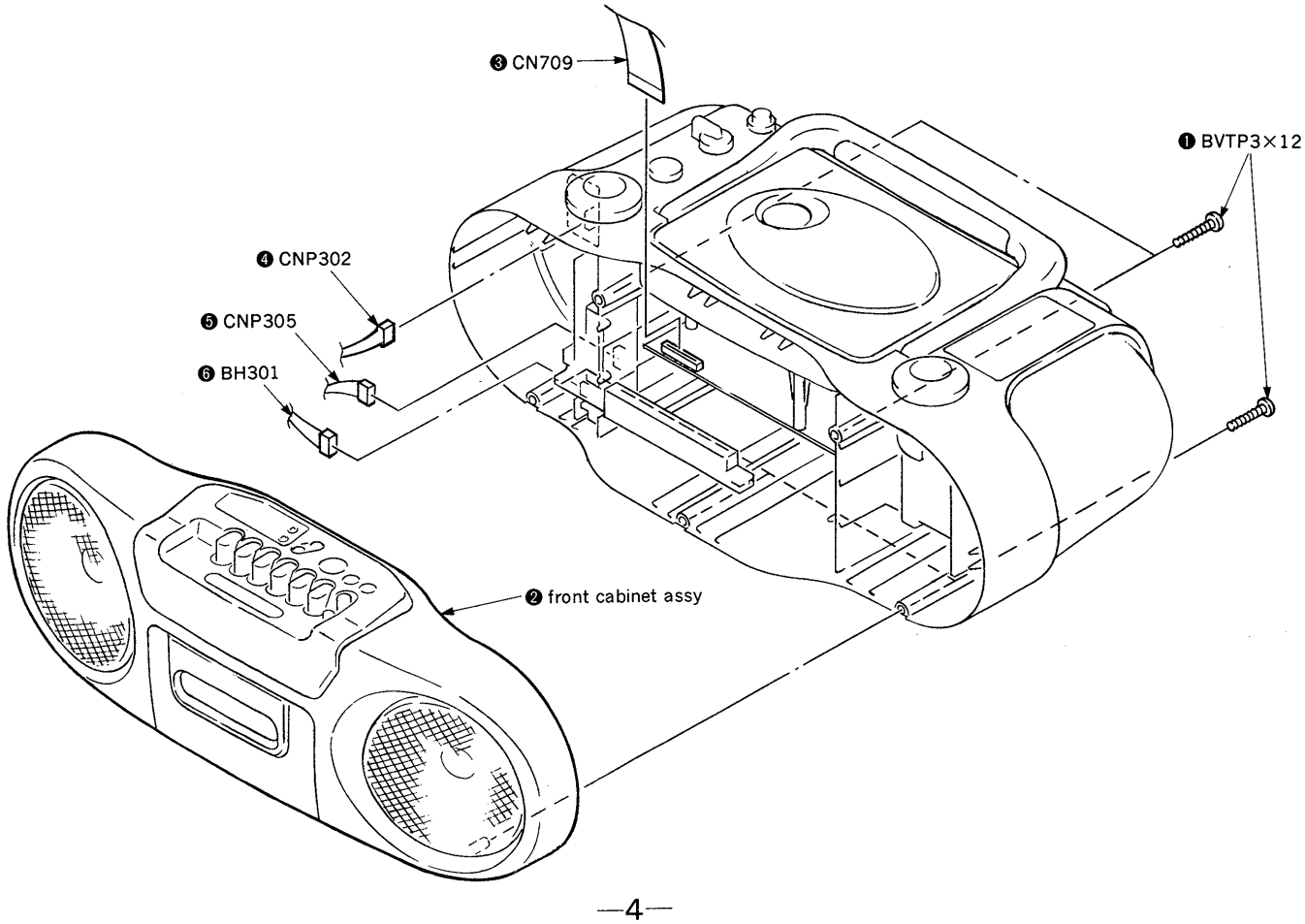
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

2-1. CASSETTE LID

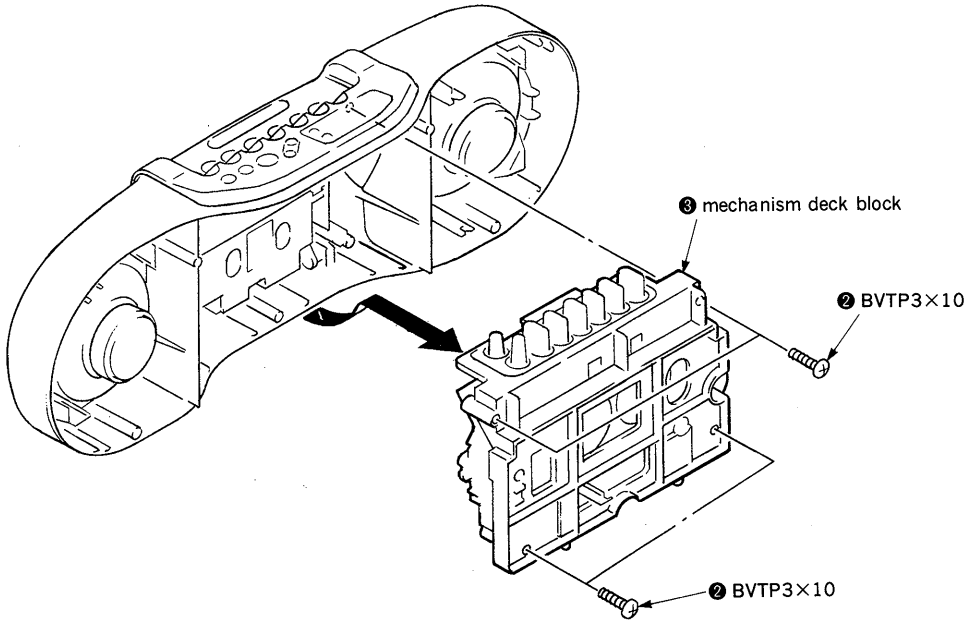


2-2. FRONT CABINET ASSY

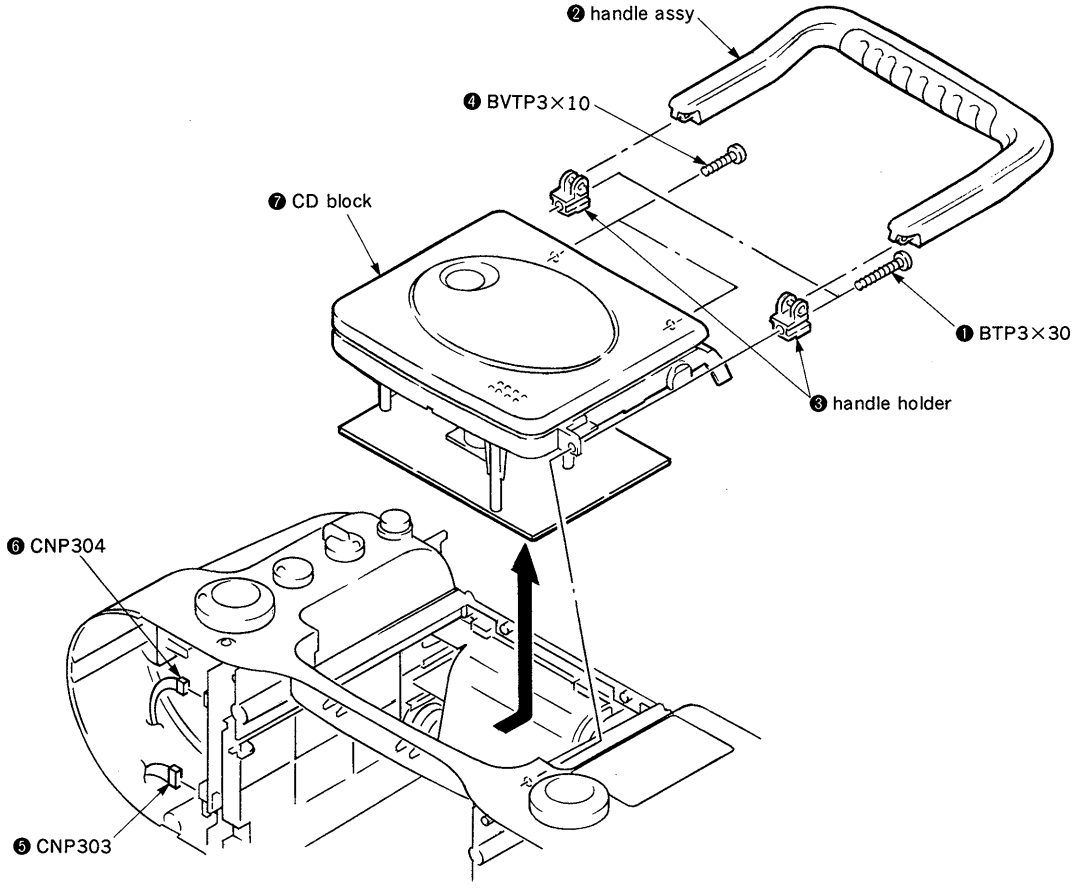


2-3. MECHANISM DECK BLOCK

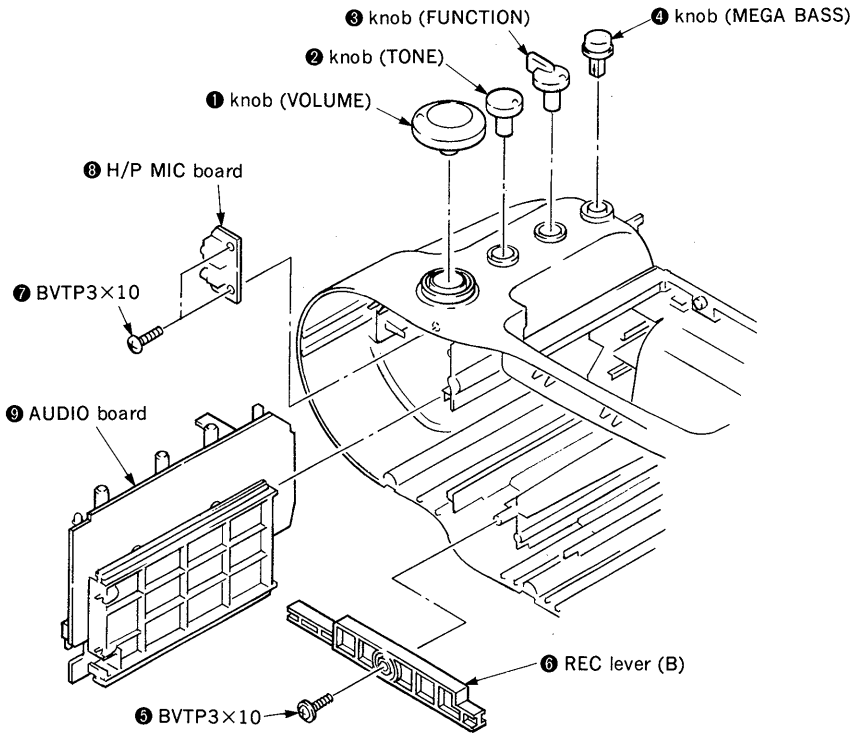
❶ Push the EJECT button.



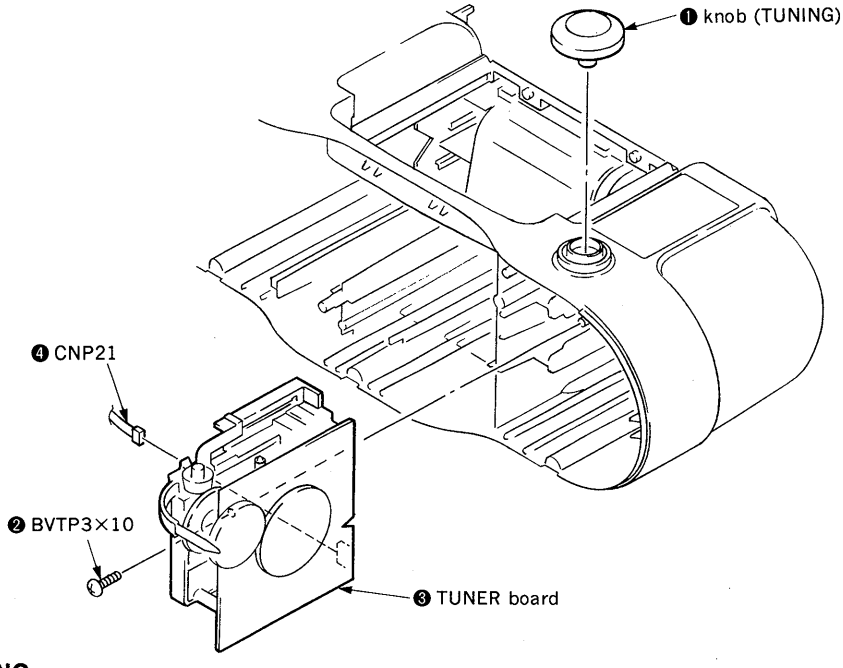
2-4. CD BLOCK



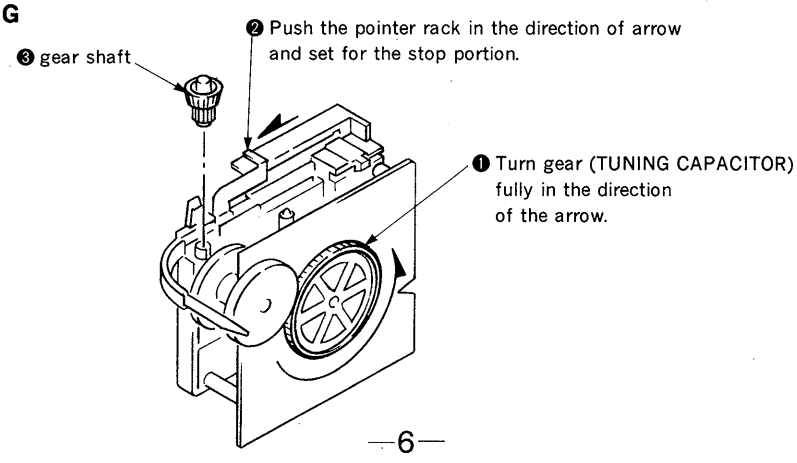
2-5. AUDIO BOARD



2-6. TUNER BOARD



2-7. POINTER SETTING


❷ Push the pointer rack in the direction of arrow and set for the stop portion.
❸ gear shaft
❶ Turn gear (TUNING CAPACITOR) fully in the direction of the arrow.

SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback head — pinch roller
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. Power supply voltage: 9V dc.

Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	20−60g•cm (0.28−0.83 oz•inch)
Forward back tension	CQ-102C	1.5−6g•cm (0.021−0.083 oz•inch)
Reverse	CQ-102RC	20−60g•cm (0.28−0.83 oz•inch)
Reverse back tension	CQ-102RC	1.5−6g•cm (0.021−0.083 oz•inch)
Fast Forward	CQ-201B	more than 50g•cm (more than 0.69 oz•inch)
Rewind	CQ-201B	more than 50g•cm (more than 0.69 oz•inch)

Tape Tension Measurement

Mode	Tension meter	Meter Reading
Forward	CQ-403A	more than 70g (more than 2.47 oz)
Reverse	CQ-403R	

SECTION 4
ELECTRICAL ADJUSTMENTS

4-1. TAPE RECORDER SECTION

Standard Output Level

Output terminal	SP OUT	HP OUT
load impedance	3.2Ω	32Ω
output signal level	0.775V (0dB)	0.25V (−10dB)

Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	tape speed adjustment

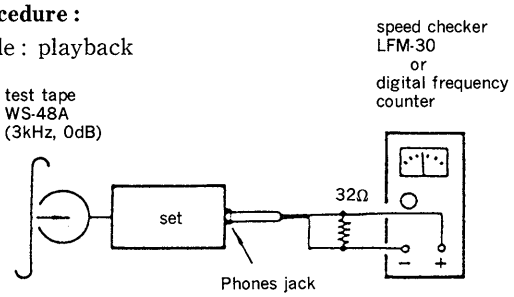
Tape Speed Adjustment

Setting:

FUNCTION switch: TAPE

Procedure:

Mode: playback

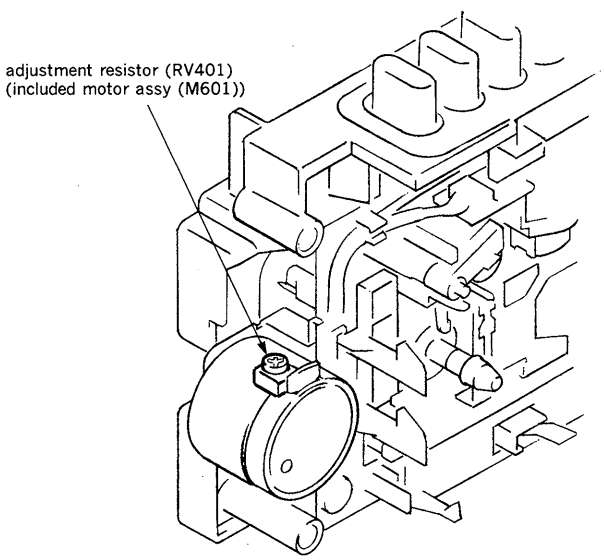


Adjustment Value:

Speed checker	Digital frequency counter
−1% to +1%	2,970 to 3,030Hz

Frequency difference between the beginning and the end of the tape should be within ±1.5% (45Hz).

Adjustment Location:

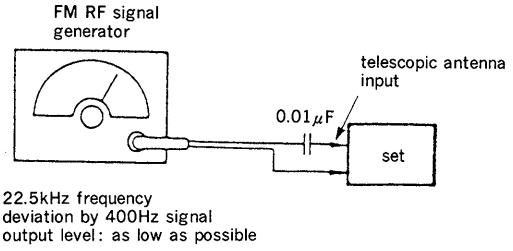


4-2. TUNER SECTION

• FM Section

Setting :

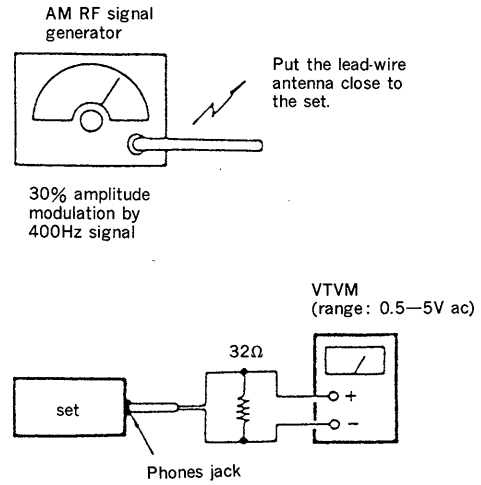
FUNCTION switch : FM


FM RF signal generator
telescopic antenna input
0.01μF
set
22.5kHz frequency deviation by 400Hz signal output level : as low as possible

• AM Section

Setting :

FUNCTION switch : AM



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.
- Remove telescopic antenna in FM section adjustments.

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L2	CT2
86.5MHz	109.5MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	CT1
86.5MHz	109.5MHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T1	CT4
520kHz	1,780kHz

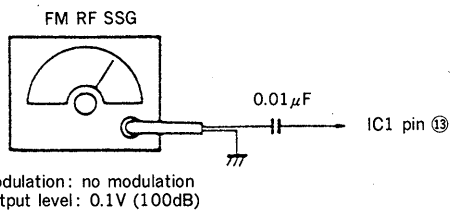
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	CT3
620kHz	1,400kHz

AM IF ADJUSTMENT
Adjust for a maximum reading on VTVM.
CP1
455kHz

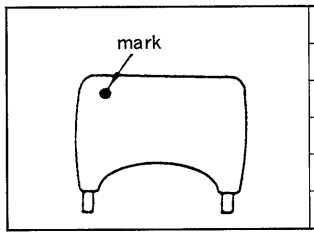
Adjustment Location : tuner board

FM VCO ADJUSTMENT

Setting :



Carrier Frequency : According to the color of the mark on ceramic (CF2).



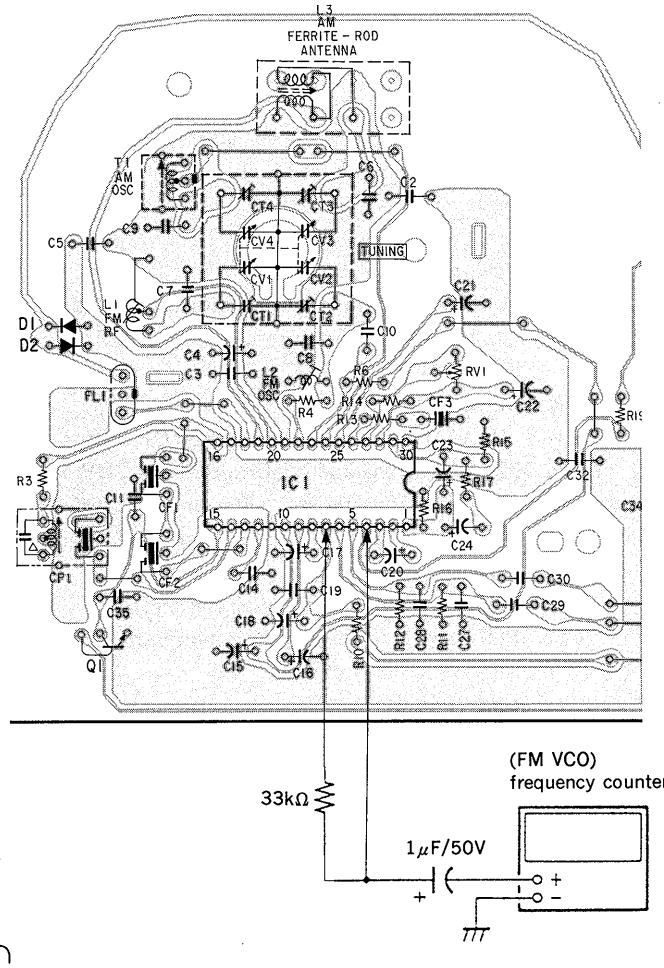
Mark	Carrier Frequency
red	10.7 MHz
blue	10.67 MHz
orange	10.73 MHz
black	10.64 MHz
white	10.76 MHz

Procedure :

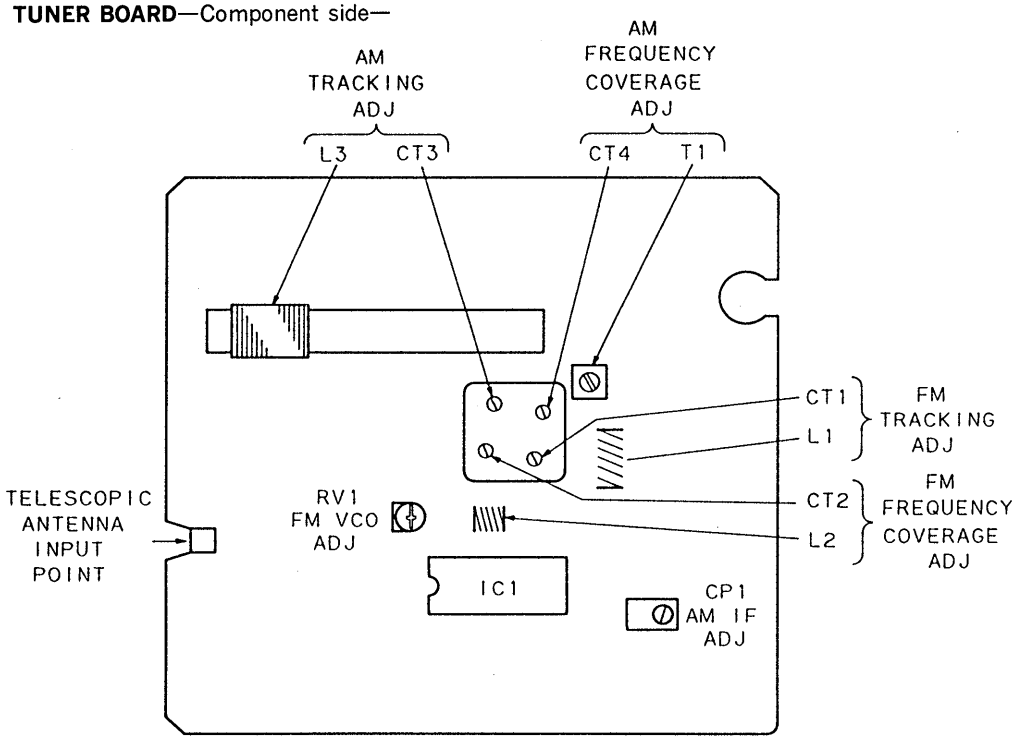
1. Adjust RV1 so that the reading on the frequency counter becomes in 76.0kHz ±0.3kHz.

Adjustment Location : tuner board

TUNER BOARD—Conductor side—



TUNER BOARD—Component side—



4-3. CD SECTION

Notes on Adjustment

1. Perform adjustment in test mode.
   After adjustment, be sure to release test mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18, Part No. 3-702-101-01) only when so indicated.

Before Adjustment

Put the set into test mode and perform the following checks. Repair if there are any problems.

• Sled Motor Check

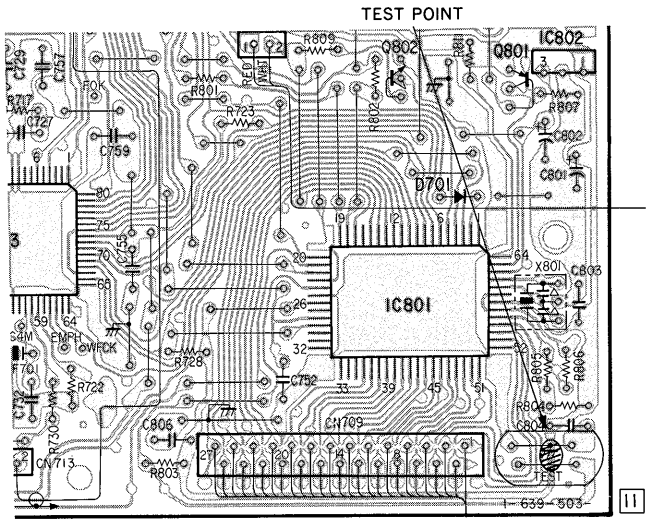
1. Press ▷ PLAY button, then press □ STOP button.
2. Press ▷▷|, |◁◁ buttons and confirm that the FOP moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises.
   ▷▷|: FOP moves to the outer circumference
   |◁◁ : FOP moves to the inner circumference

• Focus Search Check

1. Press ▷ PLAY button. (Focus search operation is performed continuously.)
2. Look at the FOP objective lens and confirm the it moves up and down smoothly, with no catching or abnormal noises.
3. Press □ STOP button.
   Confirm that focus search operation stops. If it does not, press □ STOP button again longer.

How to Put the Set into Test Mode

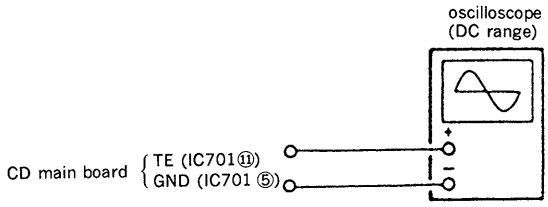
1. Short the following portion on the CD MAIN board.
2. Turn the FUNCTION selector to CD position.



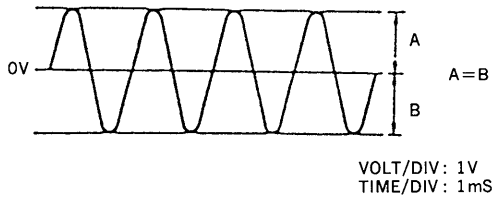
Traverse Adjustment

This adjustment is to be done when the optical pick-up block is replaced.

Procedure :



1. Put the set into test mode.
2. Connect the oscilloscope between IC701 pin⑪ and IC701 pin ⑤.
3. Press the ▷▷| and |◁◁ buttons to move the FOP to the center.
4. Insert disc (YEDS-18) and press ▷ PLAY button.
5. Adjust RV701 so that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.
6. Release test mode after adjustment is completed.



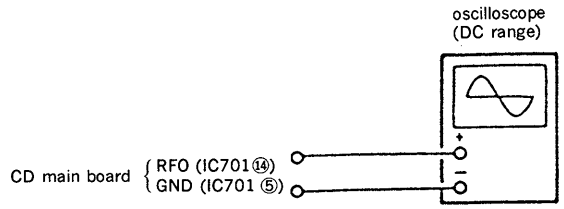
Adjustment value : 1.7±0.8Vp-p (A+B)

Adjustment Location : CD main board (See page 13.)

Focus Bias Adjustment

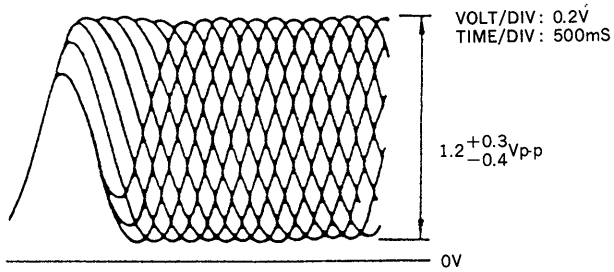
This adjustment is to be done when the optical pick-up block is replaced.

Procedure :



1. Put the set into test mode.
2. Connect the oscilloscope between IC701 pin ⑭ and IC701 pin ⑤.
3. Press the ▷▷| and |◁◁ buttons to move the FOP to the center. (Move the FOP to the music area on the disc to enable easy visibility of the eye pattern.)
4. Insert disc (YEDS-18) and press ▷ PLAY button.
5. Adjust RV702 so that the oscilloscope waveform is as shown in the figure below (eye pattern).
   A good eye pattern means that the diamond scape (◇) in the center of the waveform can be clearly distinguished.
6. Release test mode after adjustment is completed.

- RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

Adjustment Location : CD main board (See page 13.)

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

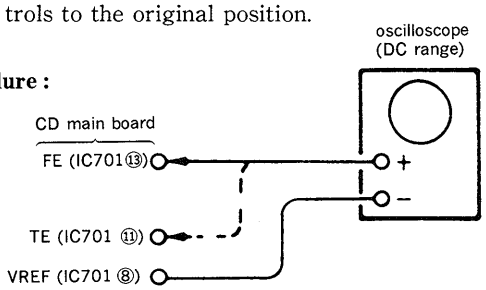
Gain / Symptoms	Focus	Tracking
• The time until music starts becomes longer for □ STOP → ▷ PLAY on automatic selection. (|◁◁ , ▷▷| buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
• Music docs not start and disc continues to rotate for □ STOP → ▷ PLAY or automatic selection. (|◁◁, ▷▷| buttons pressed.)	—	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	—	low
• More poise during 2-axis device operation.	high	high

The following is a simple adjustment method.

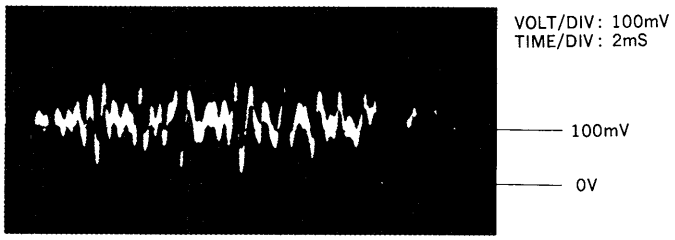
—Simple Adjustment—

Note : Since exact adjustmeunt cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure :

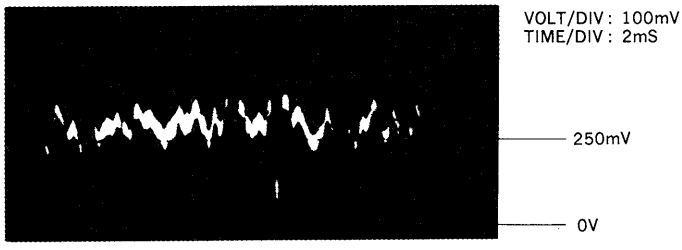


1. Keep the set horizontal.
   If the set not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.
2. Put the set into test mode.
3. Connect oscilloscope to CD main board FE.
4. Insert disc (YEDS-18) and press ▷ PLAY button.
5. Adjustment RV703 so that the waveform is as shown in the figure below. (focus gain adjustment)

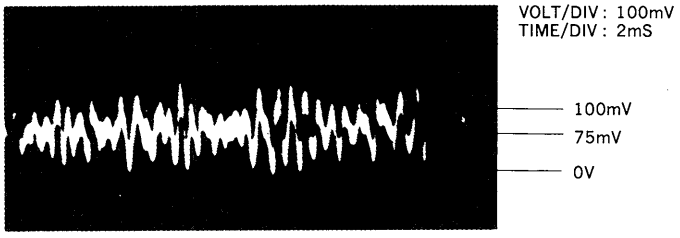


• Incorrent Examples (DC level changes more than on adjusted waveform)

low focus gain



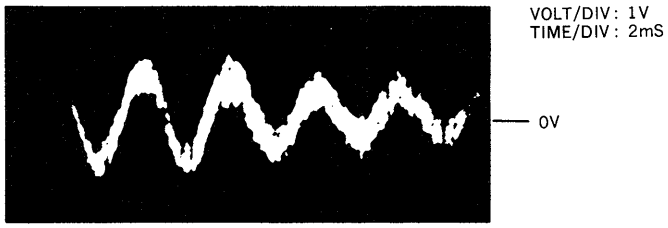
high focus gain



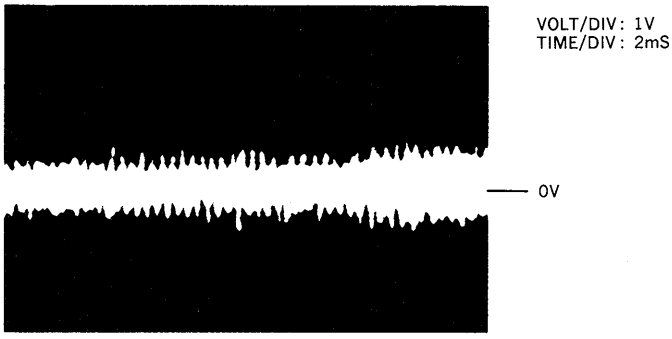
6. Connect oscilloscope to TE.
7. Adjust RV704 so that the waveform is as shown in the figure below. (tracking gain adjustment)
8. Release test mode after adjustment is completed.

• Incorrect Examples (fundamental wave appears)

low tracking gain

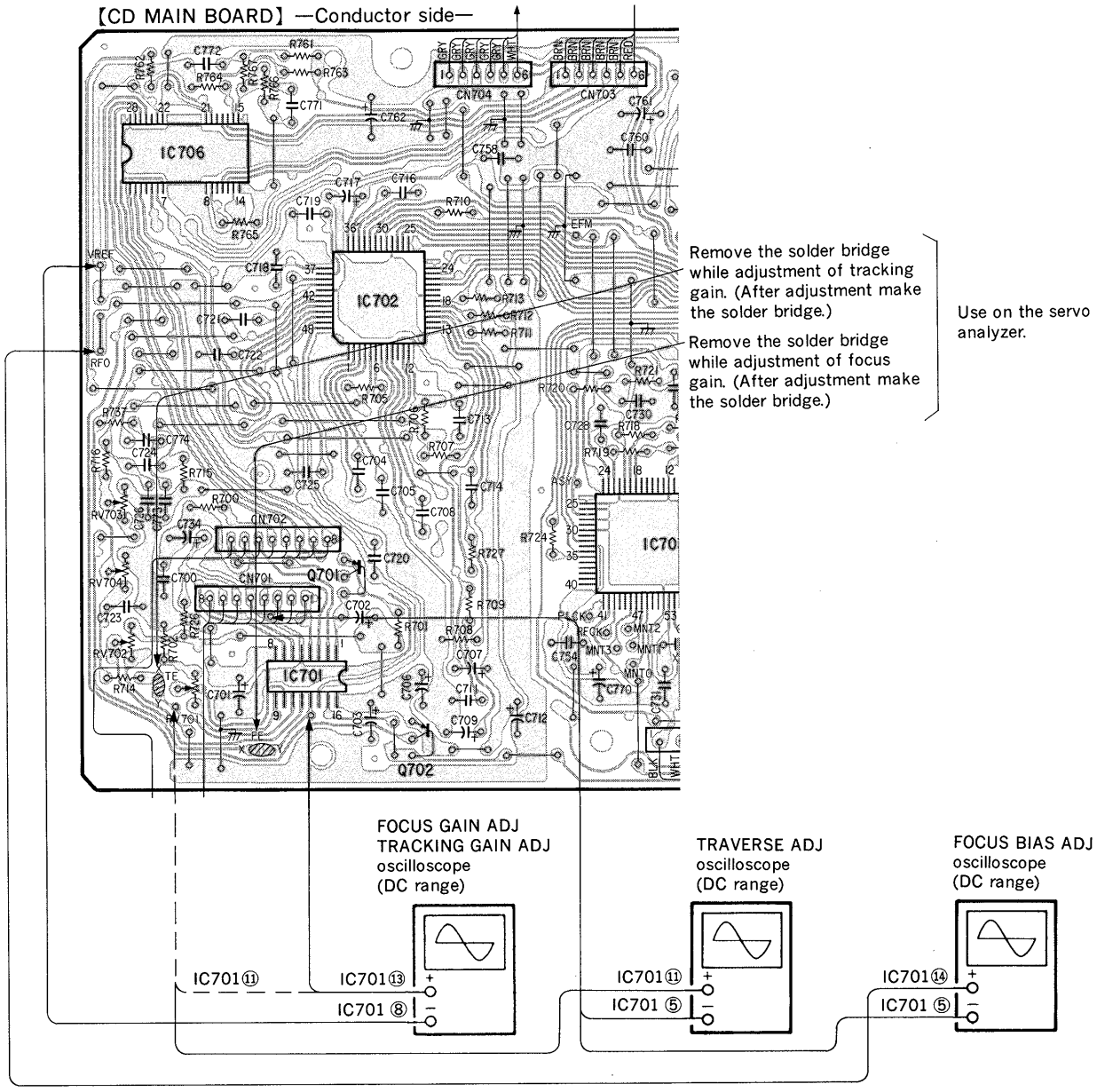


high tracking gain
(higher fundamental wave than for low gain)

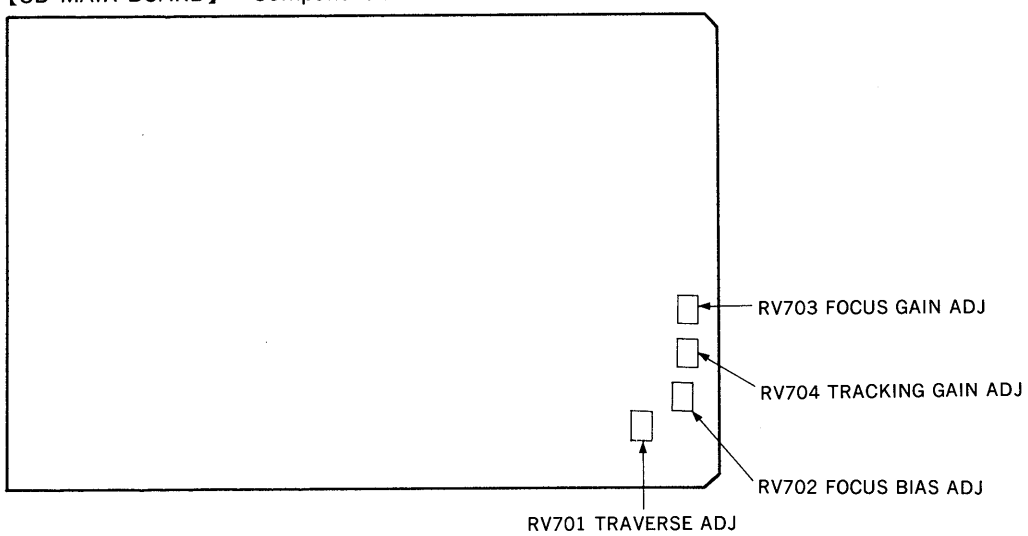


Adjustment Location :

【CD MAIN BOARD】 —Conductor side—

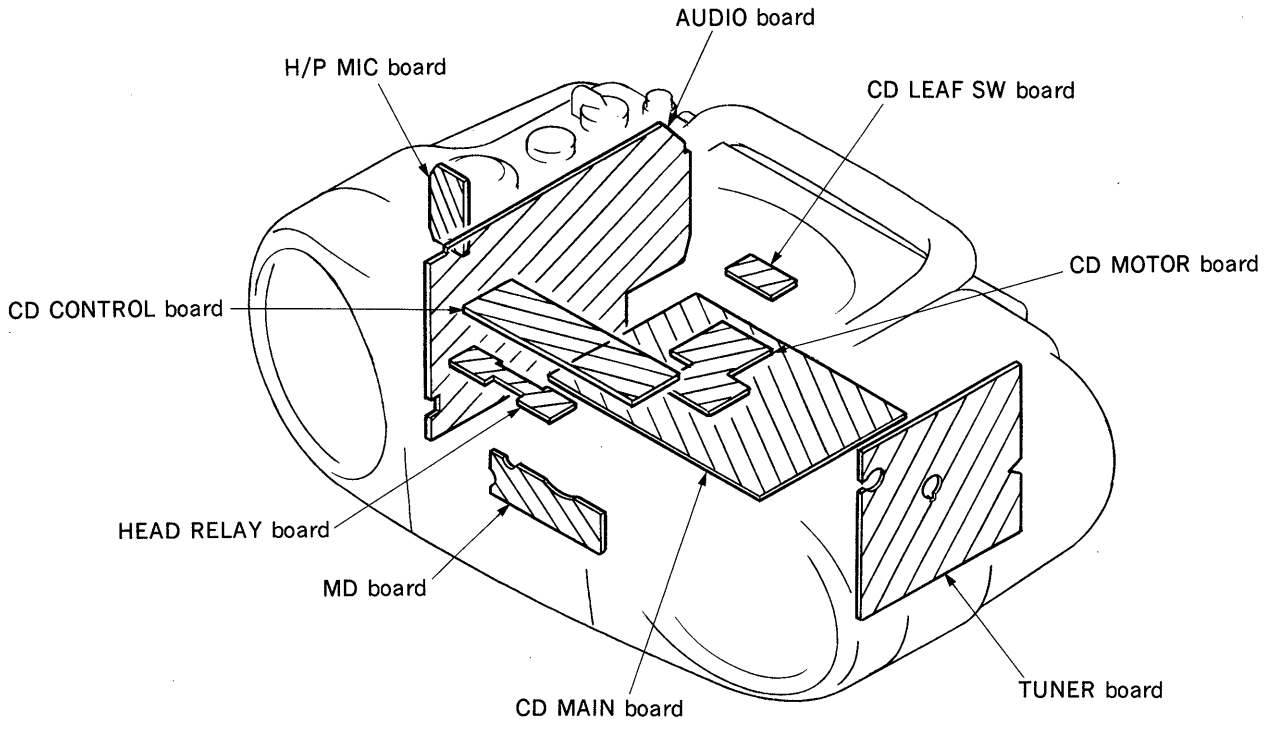


【CD MAIN BOARD】 —Component side—



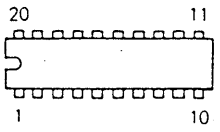
SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



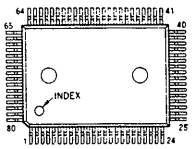
5-2. SEMICONDUCTOR LEAD LAYOUTS

BA3870



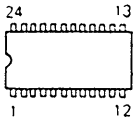
(Top view)

CXD2500BQ



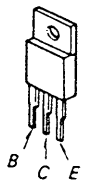
(TOP VIEW)

TA2036N

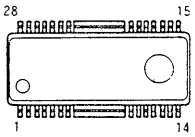


(TOP VIEW)

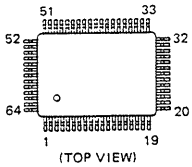
2SD2396



BA6296FP

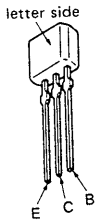


CXP5084H-636Q

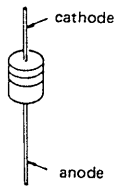


(TOP VIEW)

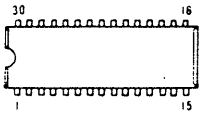
DTA114YS
DTA124ES
DTC114TS
DTC143ES
DTC143XS
DTC144ES
UN411H-TA
UN4111
2SC2785-HFE



RD5.6ES-B2
RD6.8ES-B2
1SS119

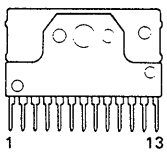


CXA1238S

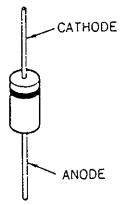


(Top view)

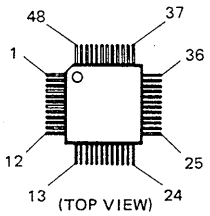
LA4597



10E2

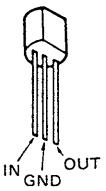


CXA1372AQ

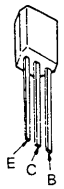


(TOP VIEW)

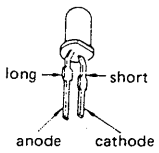
PST529E



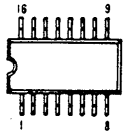
DTA124XS
DTA144ES
DTC143TS
DTC144ES



GL3PR8

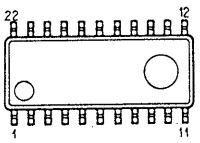


CXA1421M
μPD6376

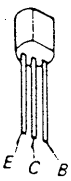


(TOP VIEW)

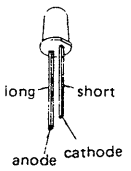
SM5840DS



2SB1013-4
2SC1815-GR

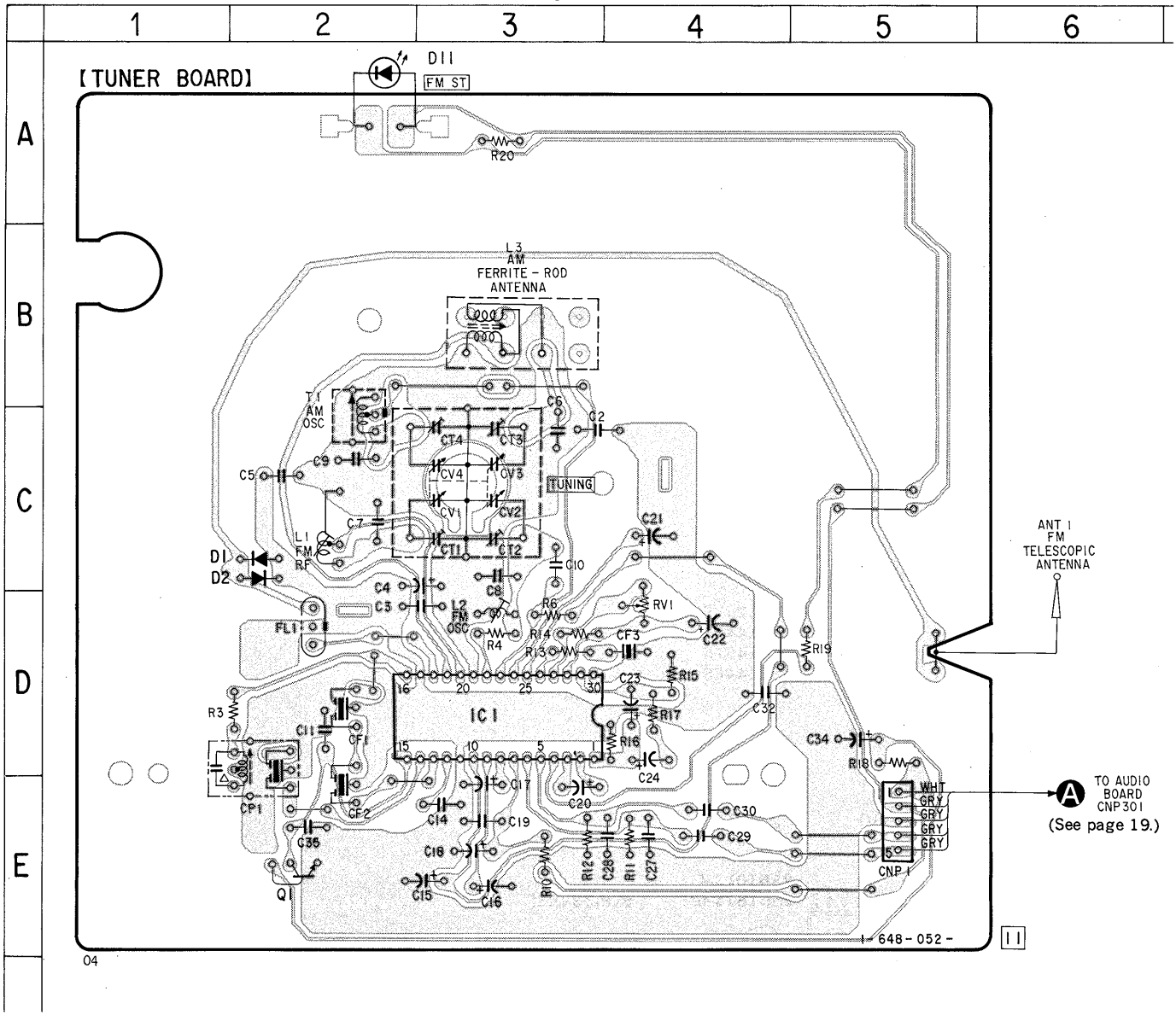


SLR-33VR3F



5-3. PRINTED WIRING BOARD—TUNER SECTION—

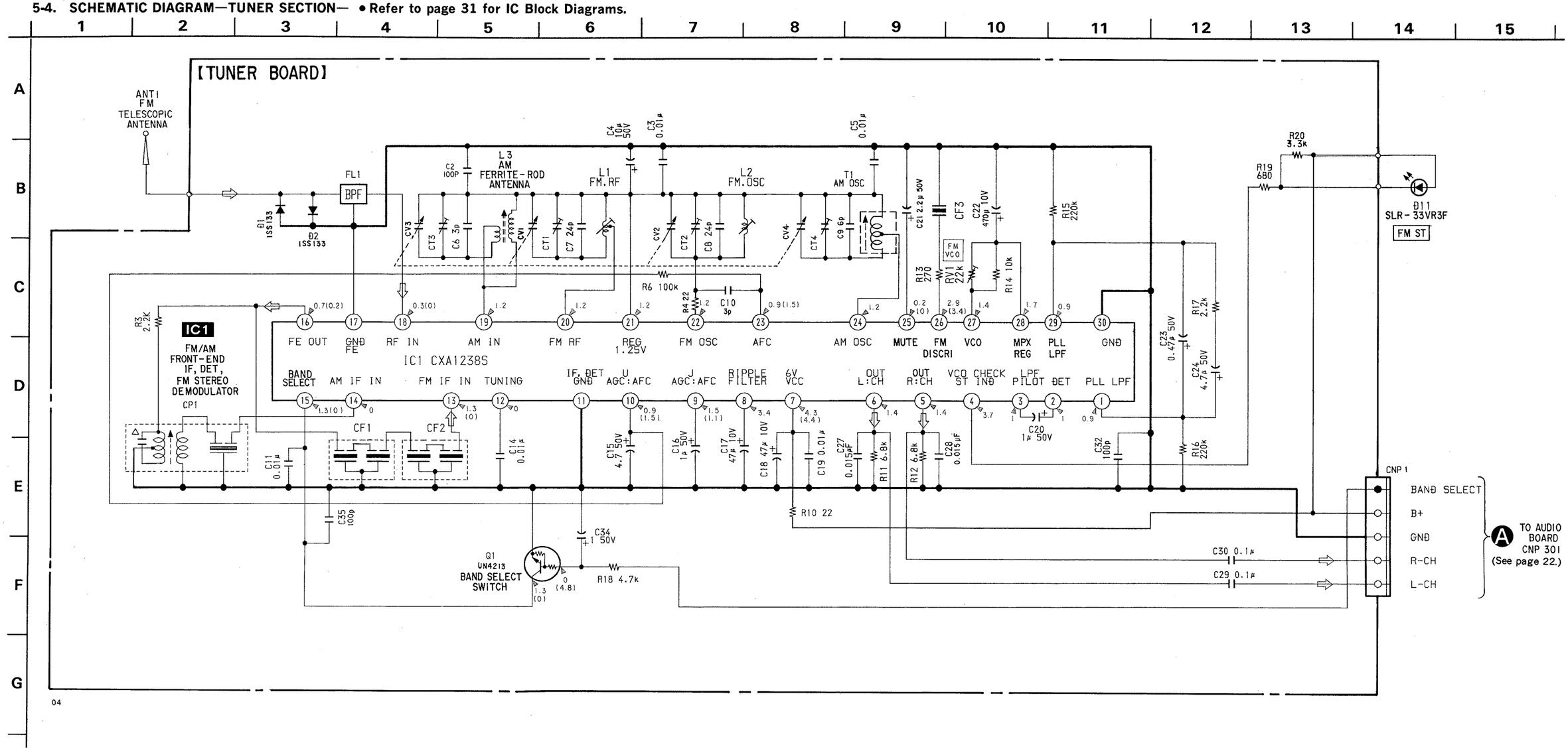
• Refer to page 15 for Semiconductor Lead Layouts.



Note:

- ○—— : parts extracted from the component side.
- [ ]— indicates side identified with part number.

5-4. SCHEMATIC DIAGRAM—TUNER SECTION— • Refer to page 31 for IC Block Diagrams.



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : B+ Line
- ▭ : adjustment for repair.

- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

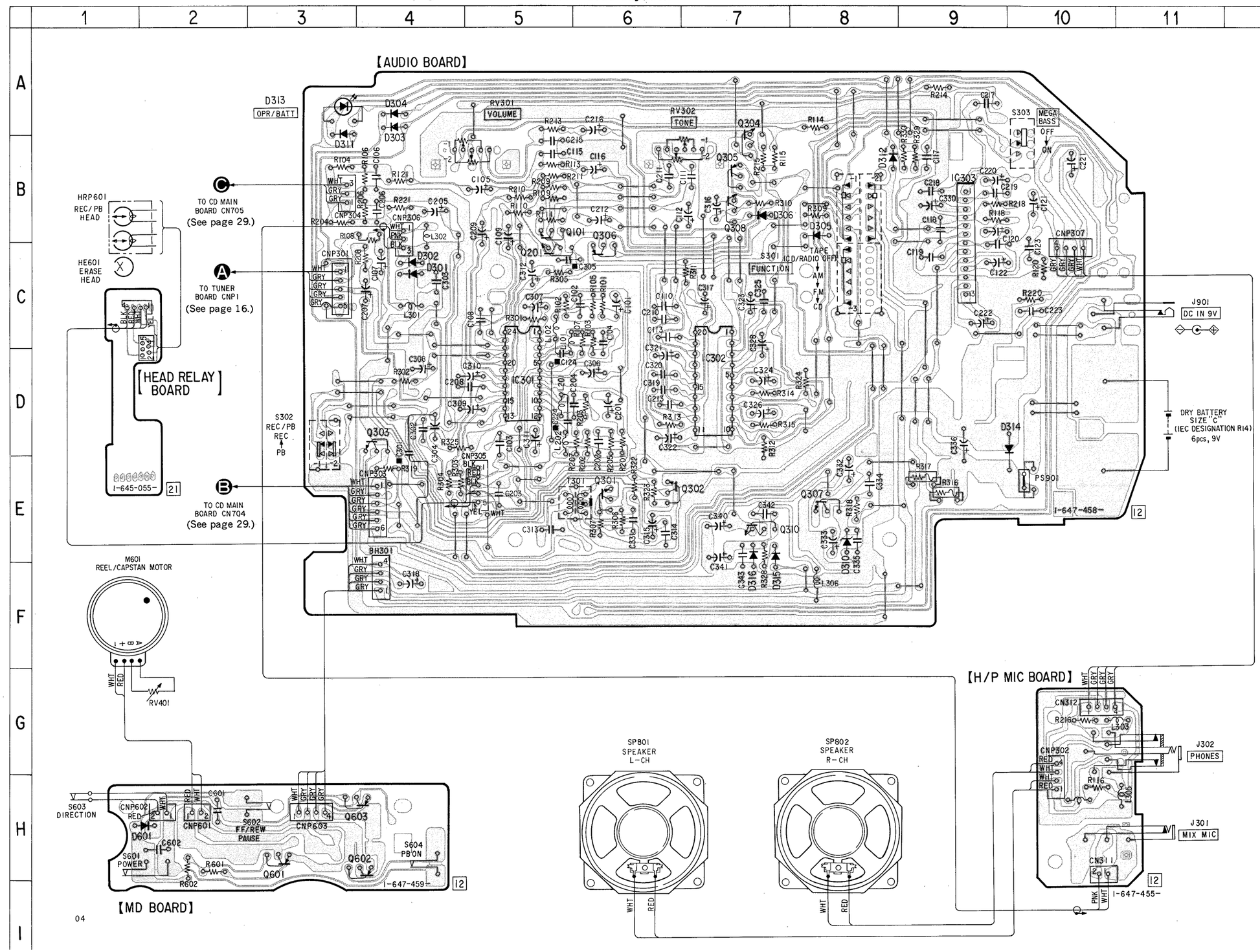
5-5. PRINTED WIRING BOARDS—AUDIO SECTION— • Refer to page 15 for Semiconductor Lead Layouts.

• Semiconductor Location

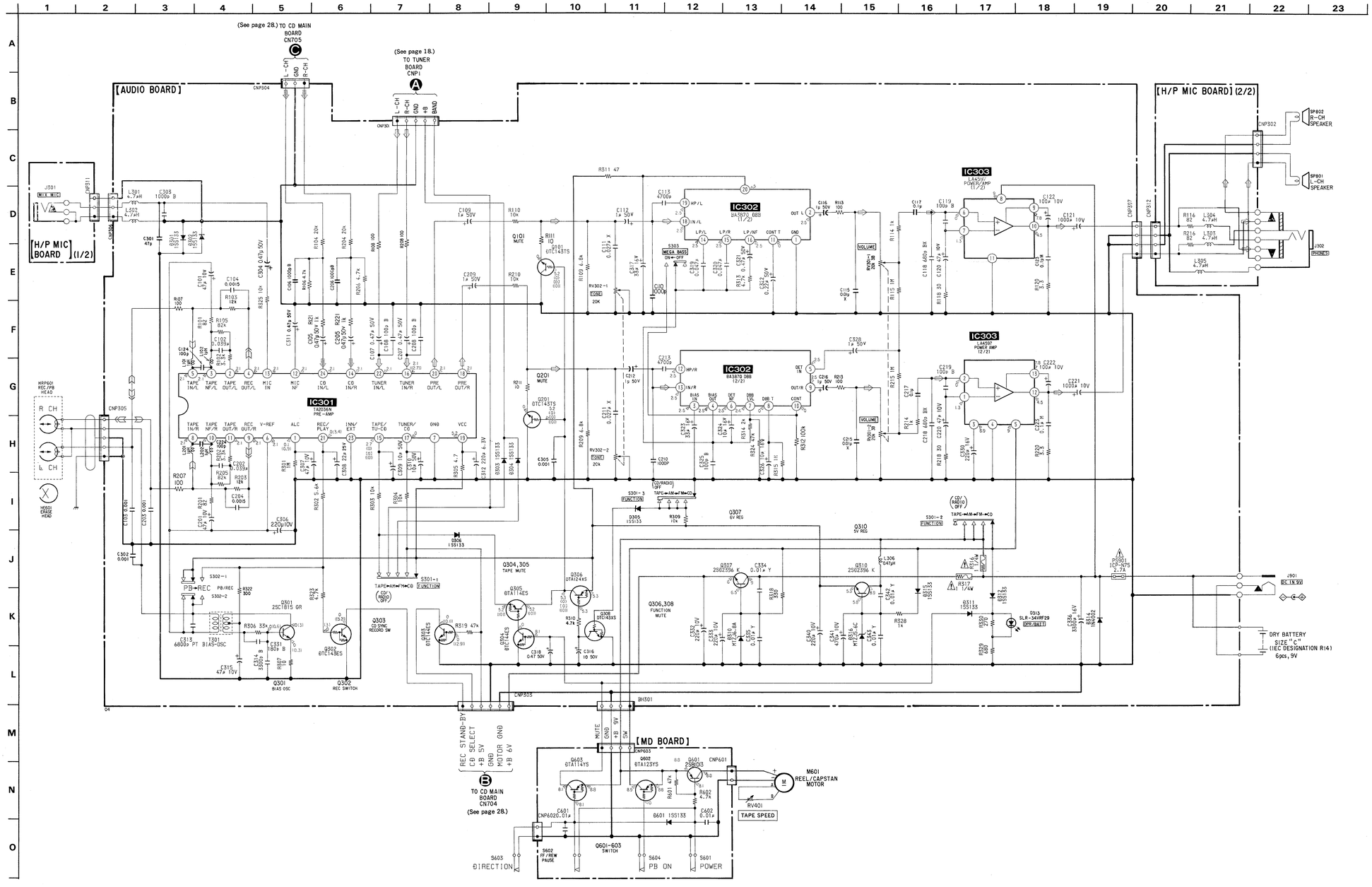
Ref. No.	Location
D301	C-4
D302	C-4
D303	A-4
D304	A-4
D305	B-8
D306	B-7
D310	E-8
D311	B-3
D312	B-8
D313	A-3
D314	D-9
D315	E-7
D316	E-7
D601	H-2
IC301	D-5
IC302	D-7
IC303	B-9
Q101	B-5
Q201	C-5
Q301	E-6
Q302	E-6
Q303	D-4
Q304	B-7
Q305	B-7
Q306	C-6
Q307	E-8
Q308	B-7
Q310	E-7
Q601	H-3
Q602	H-4
Q603	H-4

Note:

• ○—— : parts extracted from the component side.



5-6. SCHEMATIC DIAGRAM—AUDIO SECTION— • Refer to page 31 for IC Block Diagrams.



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- : fusible resistor.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Note: Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

e : B+ Line

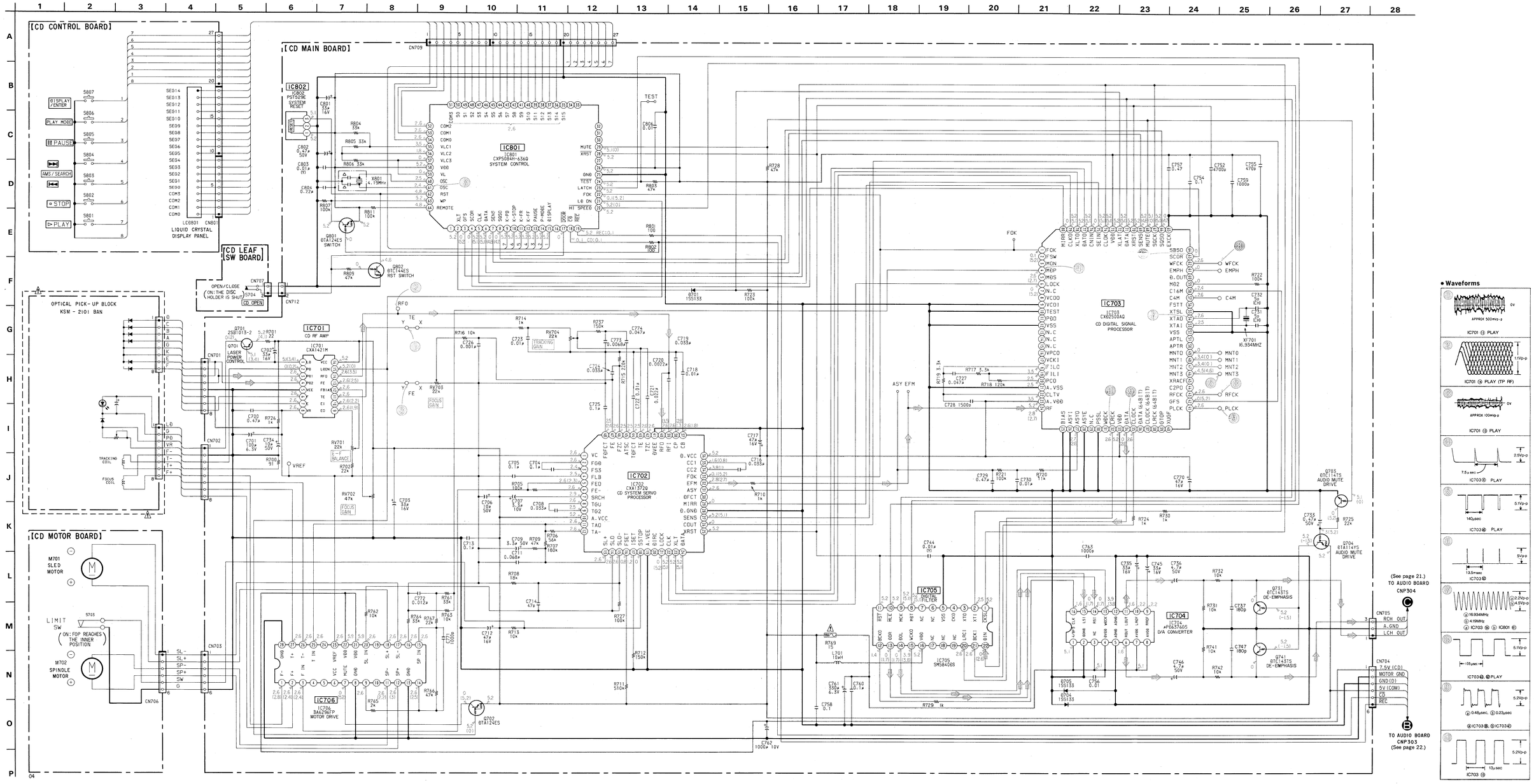
o Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.

e Voltage is dc with respect to ground under no-signal (detuned) conditions.
no mark: PB
( ): REC
< >: FM
[ ]: AM
(( )): CD

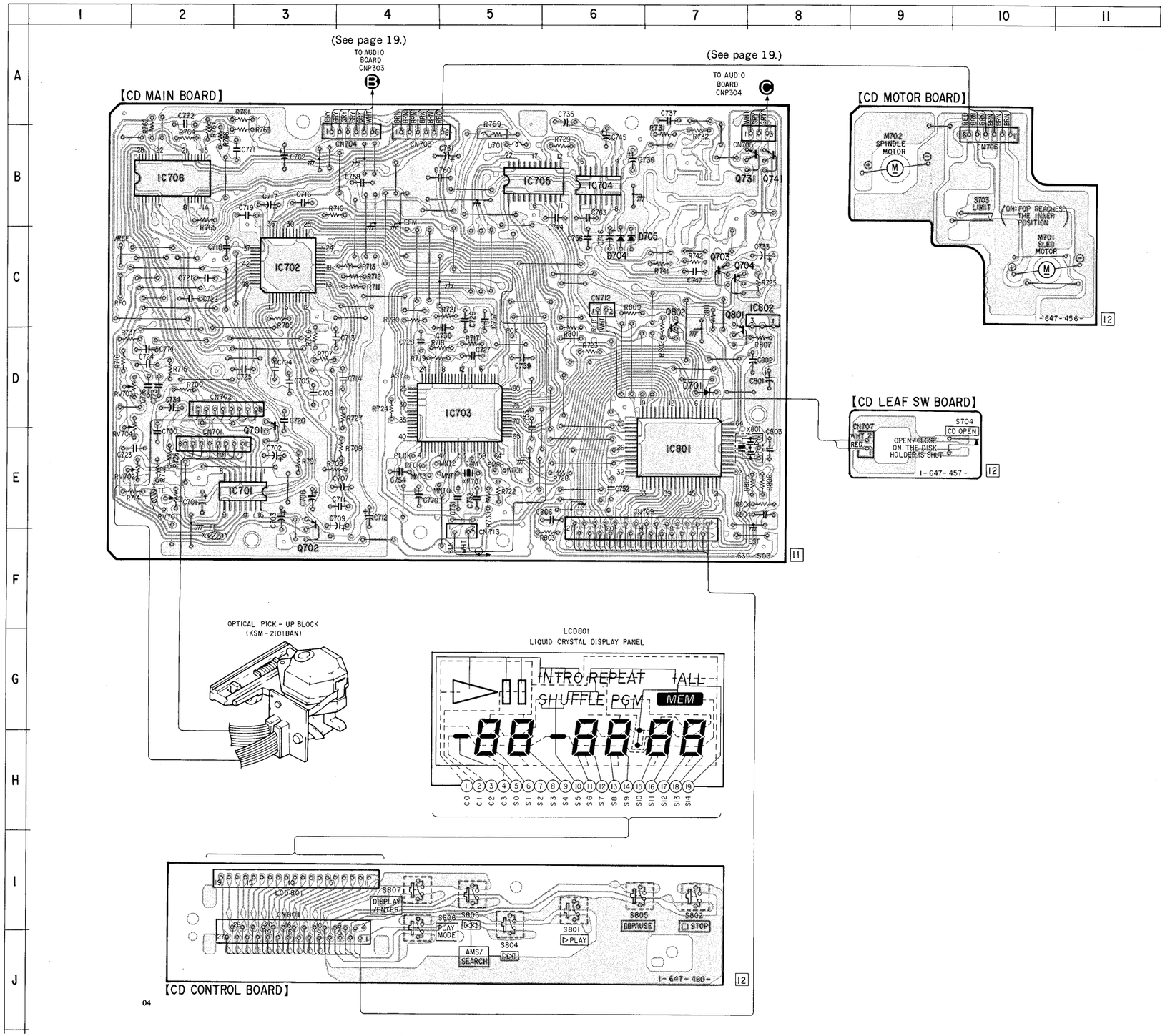
e Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

- Signal path.
  : FM
  : PB
  : REC

5-7. SCHEMATIC DIAGRAM—CD SECTION— • Refer to page 31 for IC Block Diagrams.


[CD CONTROL BOARD]
[CD MAIN BOARD]
[CD LEAF SW BOARD]
[CD MOTOR BOARD]
OPTICAL PICK-UP BLOCK
KSM-2101 BAN
IC801 CXP50841-636Q SYSTEM CONTROL
IC802 PST9269E SYSTEM RESET
IC701 CXA1421M CD RF AMP
IC702 CXA1572Q CD SYSTEM SERVO PROCESSOR
IC703 CXD2500AQ CD DIGITAL SIGNAL PROCESSOR
IC704 AP0637605 D/A CONVERTER
IC705 SM5840DS DIGITAL FILTER
IC706 BA6296FP MOTOR DRIVE
LIQUID CRYSTAL DISPLAY PANEL
M701 SLED MOTOR
M702 SPINDLE MOTOR
LIMIT SW
TO AUDIO BOARD CNP303 (See page 22.)
(See page 21.) TO AUDIO BOARD CNP304
• Waveforms

5-8. PRINTED WIRING BOARDS—CD SECTION— • Refer to page 15 for Semiconductor Lead Layouts.



• Semiconductor Location

Ref. No.	Location
D701	D-7
D704	C-6
D705	C-6
IC701	E-3
IC702	C-3
IC703	D-5
IC704	B-6
IC705	B-5
IC706	B-2
IC801	E-7
IC802	C-8
Q701	E-3
Q702	F-3
Q703	C-7
Q704	C-7
Q731	B-8
Q741	B-8
Q801	D-7
Q802	D-7

Note on Printed Wiring Board:

- ○—— : parts extracted from the component side.
- ○—●—○ : Jumper wire connected to the ground pattern on the component side.

Note on Schematic Diagram:

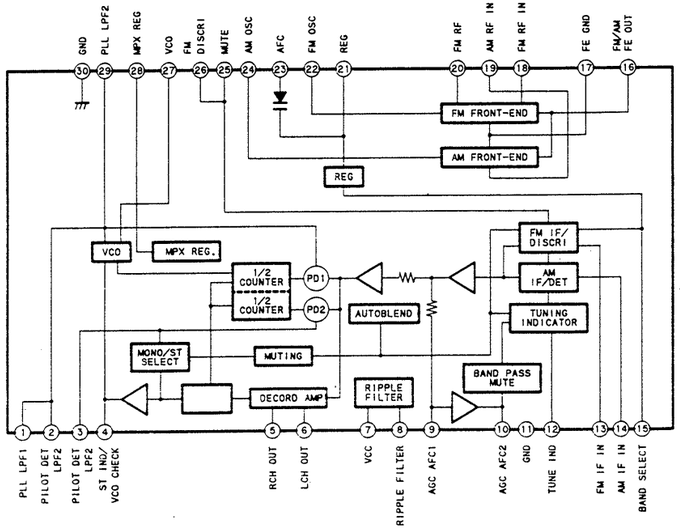
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- : fusible resistor.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

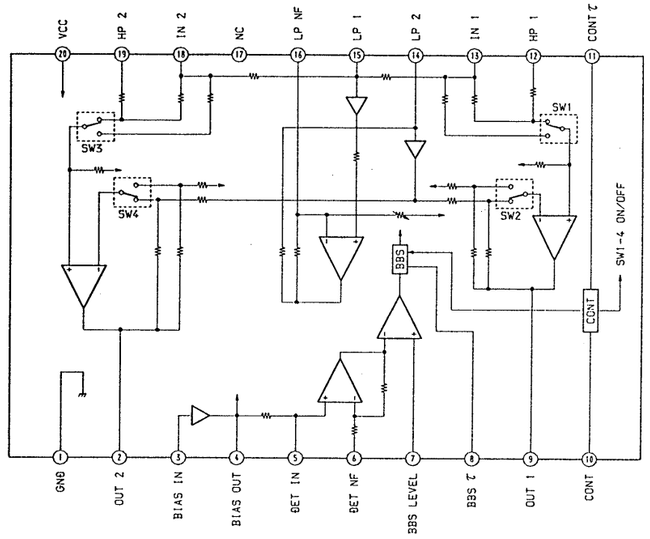
- : B÷ Line
- : adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD STOP
  ( ) : CD PLAY
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- **Signal path.**
  : CD

• IC Block Diagrams

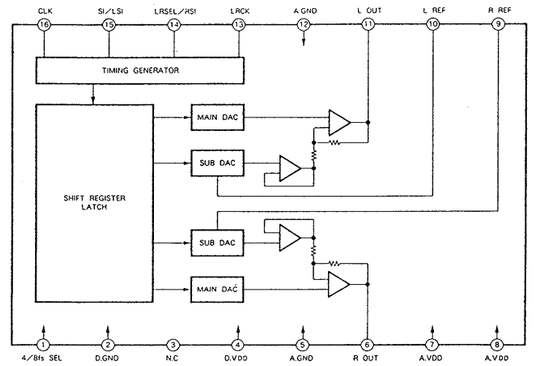
IC1 CXA1238S



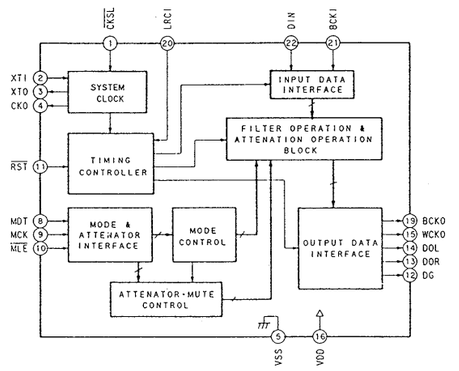
IC302 BA3870



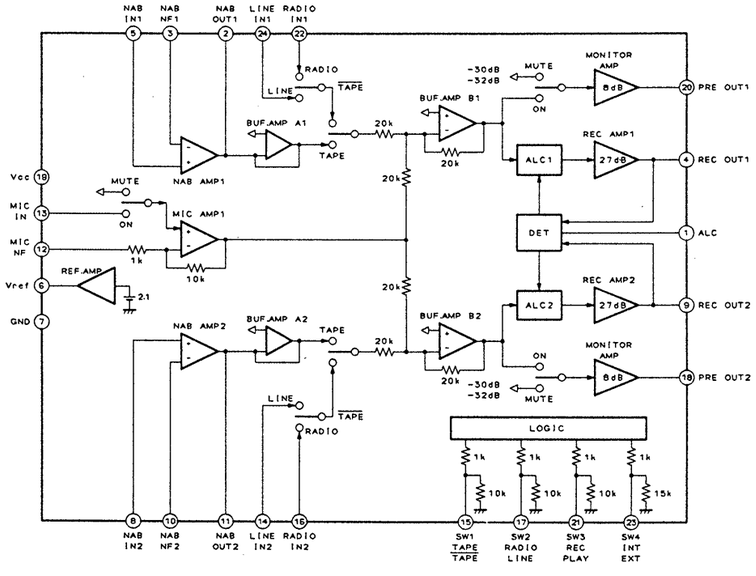
IC704 μPD6376



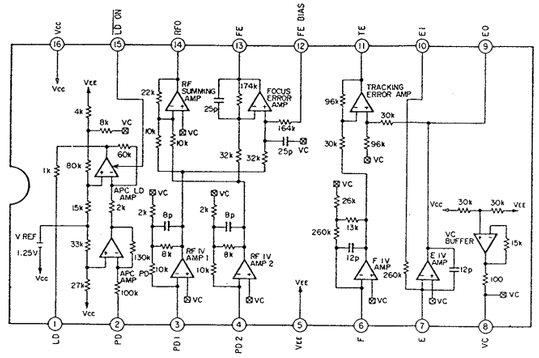
IC705 SM5840DS



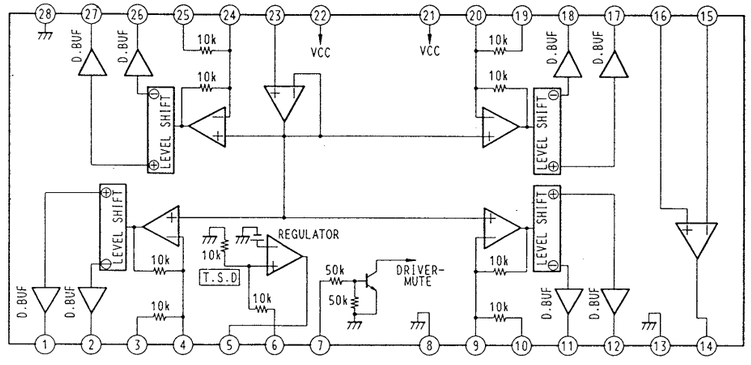
IC301 TA2036N



IC701 CXA1421M



IC706 BA6296FP



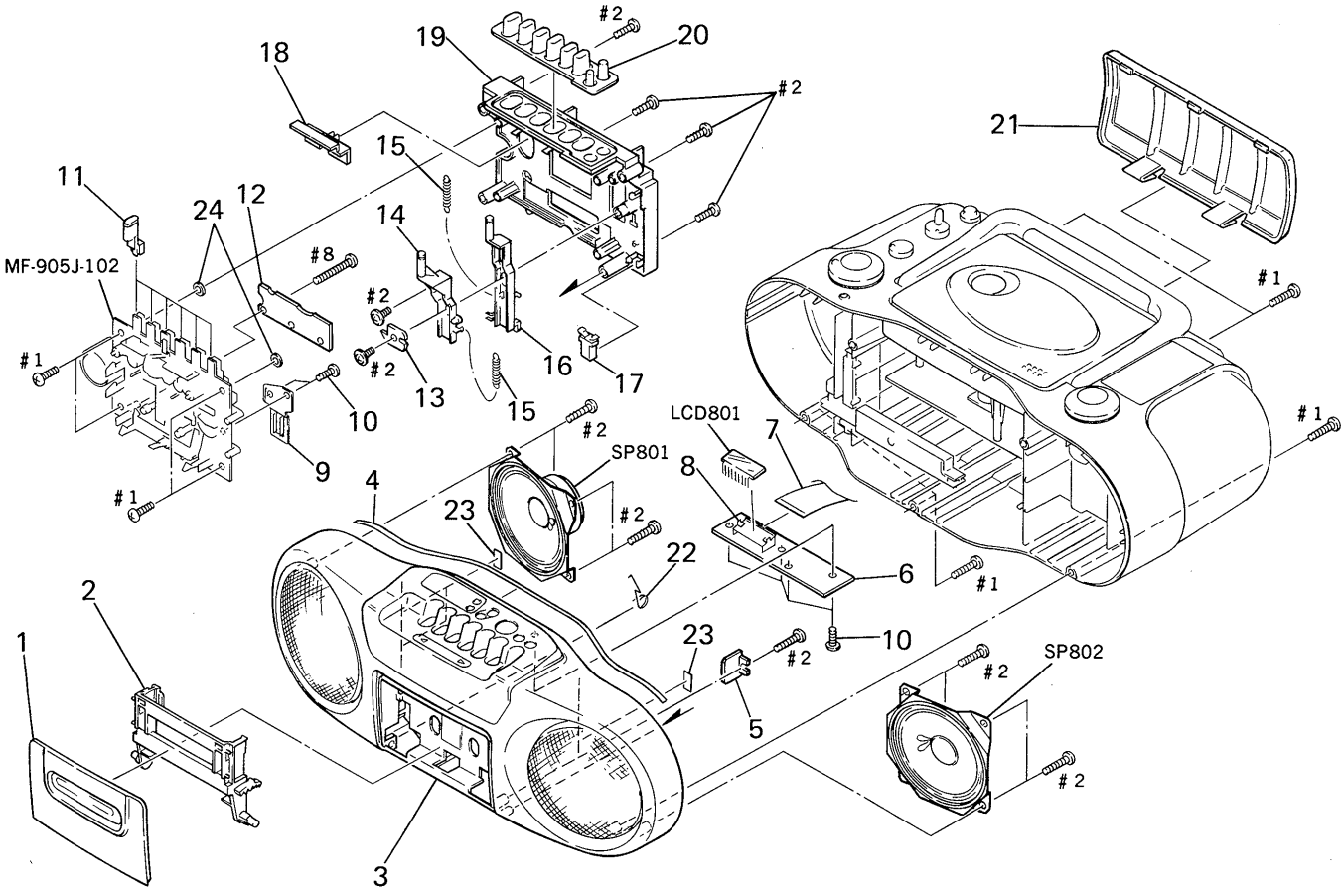
SECTION 6
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

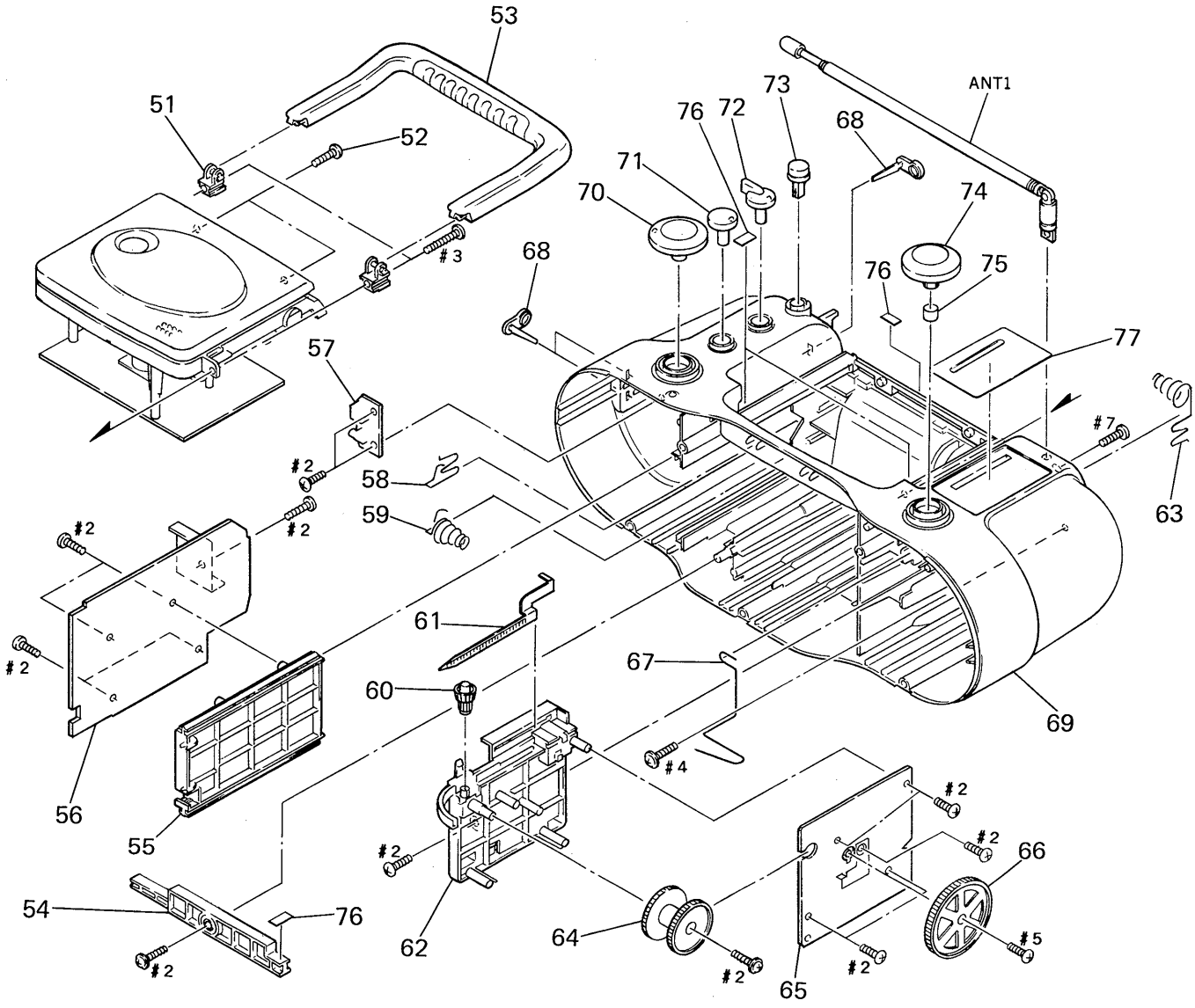
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	X-3366-823-1	LID ASSY, CASSETTE	
2	3-387-319-01	HOLDER, CASSETTE	
3	X-3366-822-1	CABINET (FRONT) ASSY	
4	3-387-328-01	RUBBER, PACKING	
5	3-351-377-01	DAMPER	
* 6	1-647-460-11	CD CONTROL BOARD	
7	1-751-232-11	WIRE, PARALLEL (FFC) (27 CORE)	
* 8	3-388-102-01	BRACKET (LCD)	
* 9	3-387-336-01	LEVER (A), REC	
10	4-931-757-31	SCREW(DIA. 2. 6X8) (IT3B), TAPPING	
11	3-387-335-01	BUTTON (MD)	
* 12	1-647-459-11	MD BOARD	
13	3-387-332-01	LEVER (B), DIR	
14	3-387-331-01	LEVER (A), DIR	
15	3-387-333-01	SPRING, TENSION	
16	3-387-326-01	LEVER (A), MODE	
17	3-375-498-01	LATCH	
18	3-387-330-01	PLATE, INDICATION, DIR	
* 19	3-387-325-01	BRACKET, MD	
20	3-388-099-01	PACKING (MD BUTTON)	
21	3-387-260-01	LID, BATTERY CASE	
22	3-387-329-01	SPRING, CASSETTE UP	
23	3-831-441-XX	CUSHION (SP)	
* 24	3-555-872-21	SPACER	
LCD801	1-810-088-11	DISPLAY PANEL, LIQUID CRYSTAL	
SP801	1-503-631-11	SPEAKER	
SP802	1-503-631-11	SPEAKER	

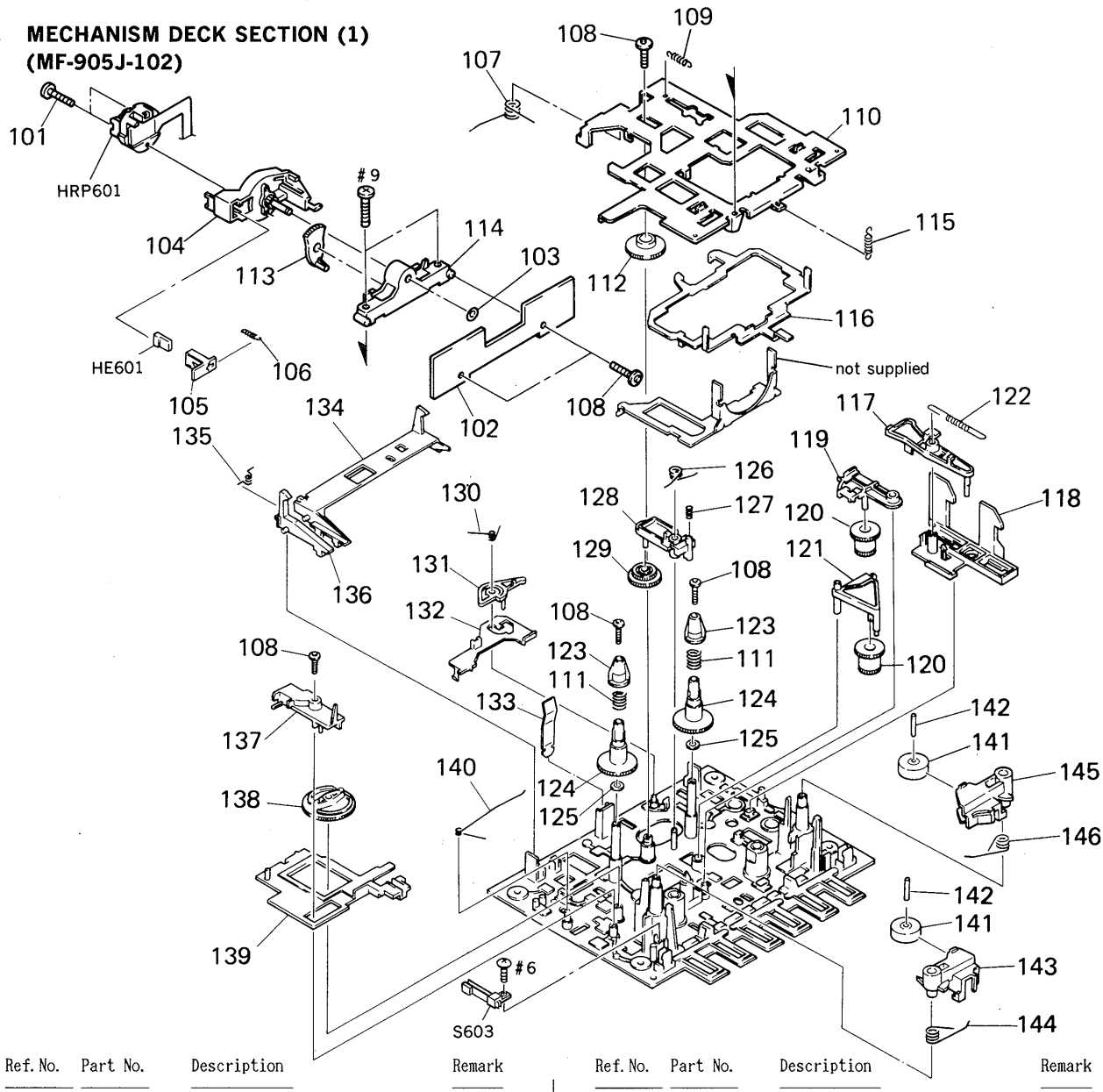
6-2 REAR CABINET SECTION



Ref. No.	Part No.	Description	Remark
51	3-387-262-01	HOLDER, HANDLE	
52	3-325-679-61	SCREW (3X10), TAPPING	
53	X-3366-752-1	HANDLE ASSY	
54	3-387-263-01	LEVER (B), REC	
* 55	3-387-261-01	CHASSIS, AU	
* 56	A-3264-490-A	AUDIO BOARD, COMPLETE	
* 57	1-647-458-11	H/P MIC BOARD	
58	3-387-274-01	SPRING (+), BATT TERMINAL	
59	3-387-273-01	SPRING (-), BATT TERMINAL	
60	3-387-311-01	SHAFT, GEAR	
61	3-387-312-01	RACK, POINTER	
* 62	3-387-304-01	CHASSIS, TU	
63	3-387-272-01	SPRING (+ -), BATT TERMINAL	
64	3-387-310-01	GEAR (IDLE)	

Ref. No.	Part No.	Description	Remark
* 65	A-3264-351-A	TUNER BOARD, COMPLETE	
66	3-387-309-01	GEAR (TUNING CAPACITOR)	
67	3-387-271-01	SPRING, ANT TERMINAL	
68	3-387-270-01	CAP, RUBBER	
69	X-3366-597-1	CABINET (REAR) ASSY	
70	3-387-266-01	KNOB (VOLUME)	
71	3-387-267-01	KNOB (TONE)	
72	3-387-268-01	KNOB (FUNCTION)	
73	3-387-269-01	KNOB (MEGA BASS)	
74	3-387-264-01	KNOB (TUNING)	
75	3-374-534-01	SPRING, KNOB	
76	3-831-441-XX	CUSHION (SP)	
77	3-387-285-01	WINDOW, TU	
ANT1	1-501-542-11	ANTENNA, TELESCOPIC	

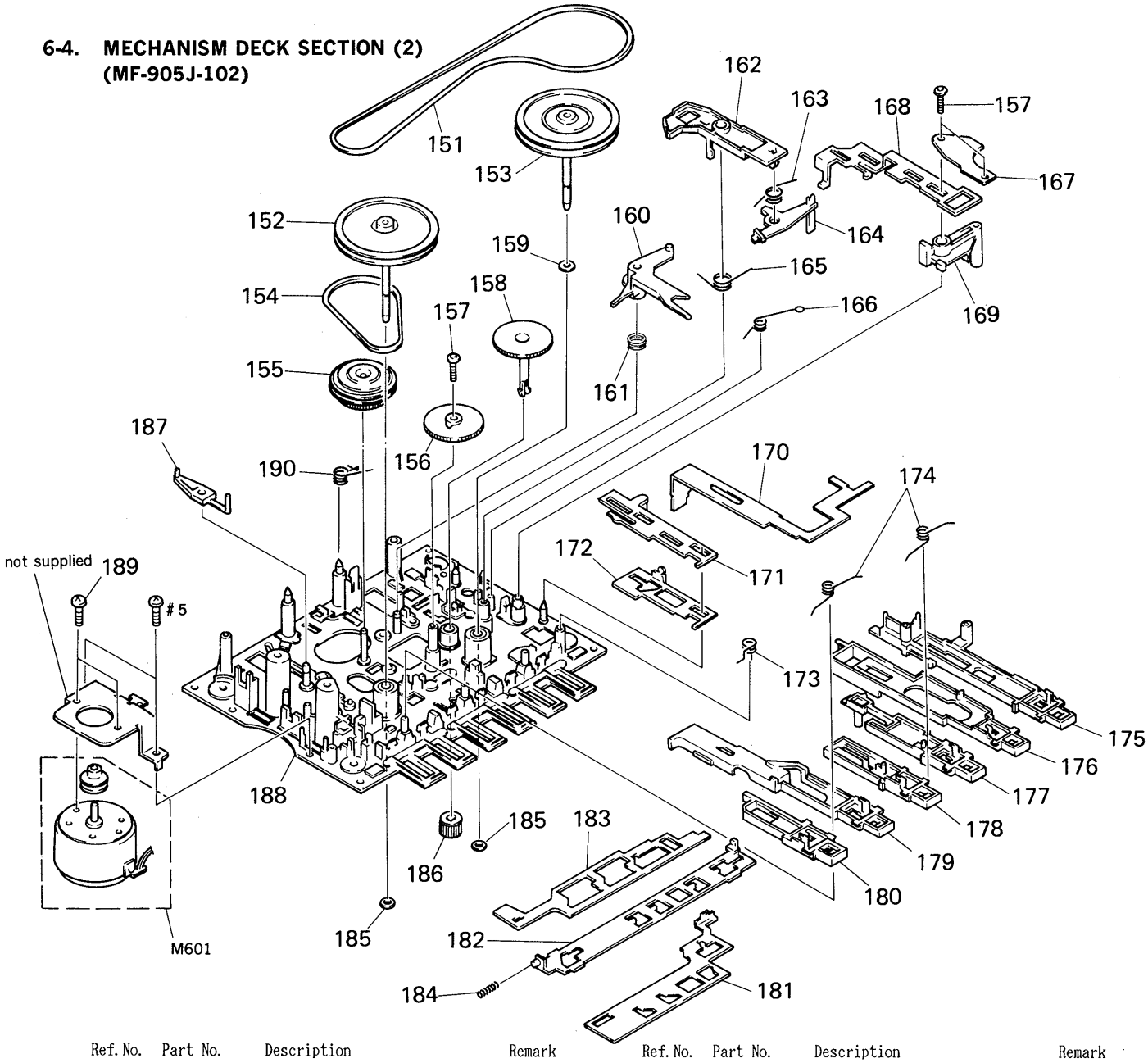
6-3. MECHANISM DECK SECTION (1) (MF-905J-102)



Ref. No.	Part No.	Description	Remark
101	3-309-597-81	SCREW (1.4), TAPPING	
* 102	1-645-055-21	HEAD RELAY BOARD	
103	3-328-432-01	WASHER, STOPPER	
104	X-3365-422-3	HOLDER ASSY, HEAD	
105	3-374-344-01	GUIDE, ERASE HEAD	
106	3-374-345-01	SPRING, TENSION	
107	3-374-342-01	SPRING (HEAD), TORSION	
108	3-344-737-11	SCREW (B1.4X6), TAPPING	
109	3-380-814-01	SPRING, TENSION	
* 110	3-381-657-01	CHASSIS, HEAD	
111	4-931-747-11	SPRING, COMPRESSION	
112	3-374-329-01	GEAR, MIDWAY	
113	3-381-660-01	LEVER (FAN-SHAPED)	
* 114	3-381-658-02	GEAR (BASE), HEAD	
115	3-386-829-01	SPRING, TENSION	
* 116	3-374-370-01	SLIDER (HD)	
117	3-374-336-01	LEVER (SW)	
* 118	3-374-367-01	LEVER (EJECT)	
119	3-374-338-01	LEVER (REW)	
120	3-374-339-01	GEAR, FR	
121	3-374-368-01	LEVER (FF)	
122	3-377-194-01	SPRING, TENSION	
123	4-930-408-11	CLAW, REEL	
124	3-374-326-01	TABLE, REEL	
125	3-377-195-01	WASHER (S)	

Ref. No.	Part No.	Description	Remark
126	3-374-327-01	SPRING (N R), TORSION	
127	3-343-264-81	COLLAR, SPRING	
128	3-374-363-01	LEVER (FWD)	
129	3-374-328-01	GEAR, FWD	
130	3-374-334-01	SPRING (BRAKE), TORSION	
131	3-374-333-01	LEVER (PAUSE)	
132	3-374-332-01	SLIDER (BRAKE)	
133	3-376-135-01	SPRING, CASSETTE	
134	3-374-366-01	LEVER (ERASE R)	
135	4-930-451-01	SPRING	
136	3-374-335-01	LEVER (ERASE N)	
137	3-374-330-01	LEVER (DIR A)	
138	3-374-365-01	GEAR (NR), CAM	
139	3-374-364-01	SLIDER (NR)	
140	3-374-331-01	SPRING (DIR), TORSION	
141	3-366-051-11	PINCH ROLLER	
142	3-366-052-11	SHAFT, PINCH ROLLER	
* 143	3-374-373-01	LEVER (PINCH R)	
144	3-374-347-01	SPRING (R), TORSION	
* 145	3-374-372-01	LEVER (PINCH N)	
146	3-374-346-01	SPRING (N), TORSION	
HE601	1-543-719-11	HEAD, MAGNETIC (ERASE)	
HRP601	1-500-013-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
S603	1-570-559-11	SWITCH, LEAF (DIR)	

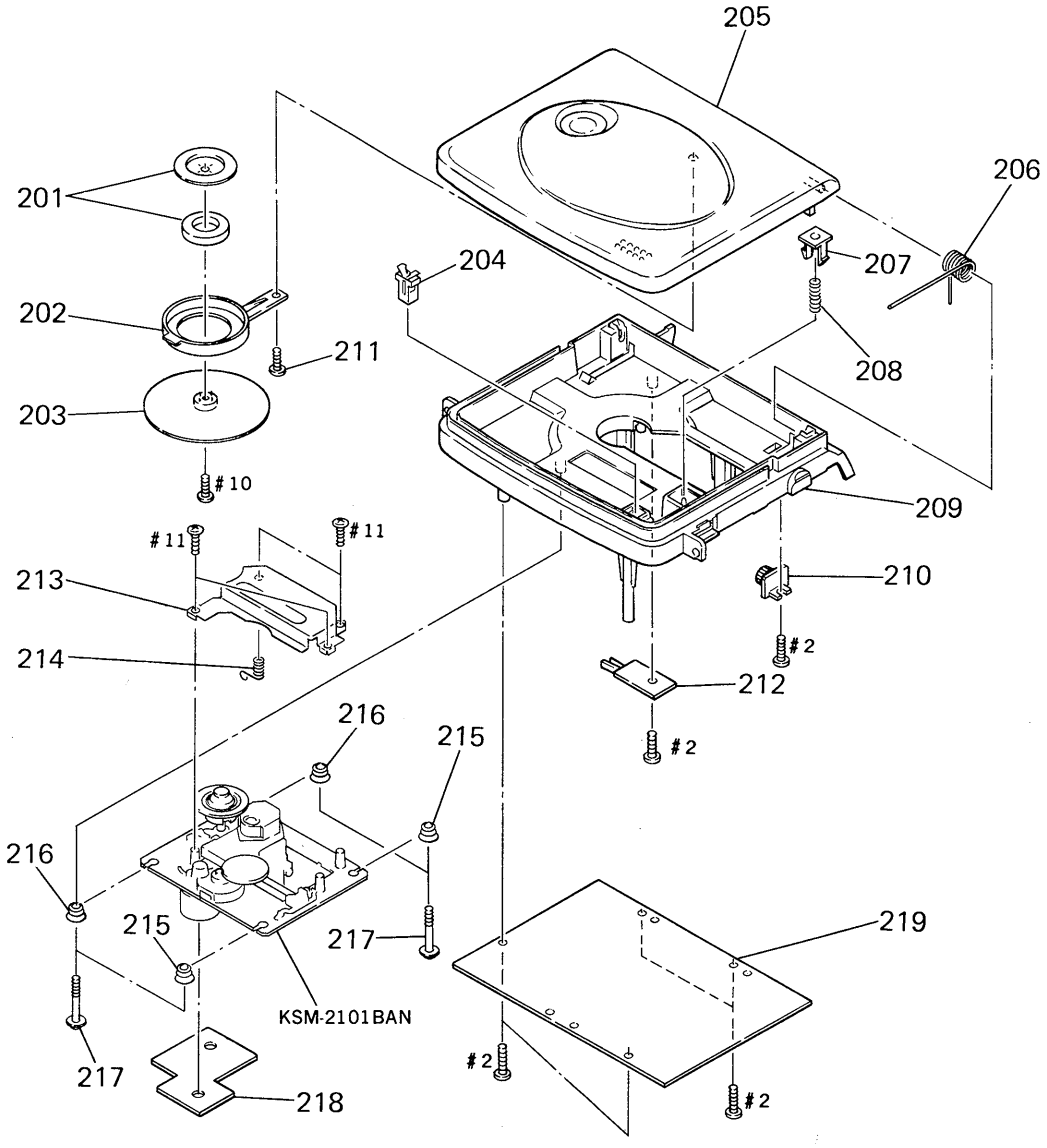
6-4. MECHANISM DECK SECTION (2) (MF-905J-102)



Ref. No.	Part No.	Description	Remark
151	3-374-322-01	BELT	
152	X-3365-411-1	FLY ASSY (N2)	
153	X-3363-913-1	FLY ASSY (R)	
154	3-374-321-01	BELT	
155	X-3363-917-1	LIMITER ASSY, FWD	
156	3-374-359-01	GEAR (S OFF), CAM	
157	3-344-737-11	SCREW (B1.4X6), TAPPING	
158	3-374-318-01	GEAR (A), DECELERATION	
159	3-683-454-01	WASHER, POLYETHYLENE	
* 160	3-374-316-01	LEVER (S OFF A)	
161	3-375-011-01	SPRING, COMPRESSION	
162	3-374-357-01	LEVER (S OFF C)	
163	3-374-311-01	SPRING (S OFF C), TORSION	
164	3-374-312-01	LEVER (S OFF B)	
165	3-374-313-01	SPRING (S OFF), TORSION	
166	3-374-307-01	SPRING (MUTUAL), TORSION	
* 167	3-374-317-01	REINFORCEMENT	
168	3-374-358-01	SLIDER (ERASING)	
169	3-374-314-01	LEVER (DIR B)	
* 170	3-374-315-01	SLIDER (CR)	
171	3-374-306-01	SLIDER (MODE B)	

Ref. No.	Part No.	Description	Remark
* 172	3-374-305-01	SLIDER (MODE A)	
173	3-374-309-01	SPRING (REC), TORSION	
174	3-374-308-01	SPRING (CONTROL), TORSION	
175	3-374-356-01	SLIDER (REC)	
176	3-374-355-01	SLIDER (FWD)	
177	3-374-354-01	SLIDER (REW)	
178	3-374-353-01	SLIDER (FF)	
179	3-374-352-01	SLIDER (PAUSE)	
180	3-374-351-01	SLIDER (STOP)	
* 181	3-374-348-01	SLIDER (FR)	
182	3-374-350-01	SLIDER (LOCK)	
* 183	3-374-349-01	SLIDER (SW)	
184	4-932-648-01	SPRING, COMPRESSION	
185	3-374-324-01	RING, RETAINING	
186	3-374-325-01	GEAR (B), DECELERATION	
187	3-374-304-01	LEVER (PAUSE ROCK)	
* 188	X-3363-918-1	CHASSIS ASSY, MECHANICAL	
189	3-343-251-01	SCREW (M2.6X2.5)	
190	3-374-310-01	SPRING (FWD), TORSION	
M601	A-3253-181-A	MOTOR ASSY (INCLUDING PULLEY, RV401)	

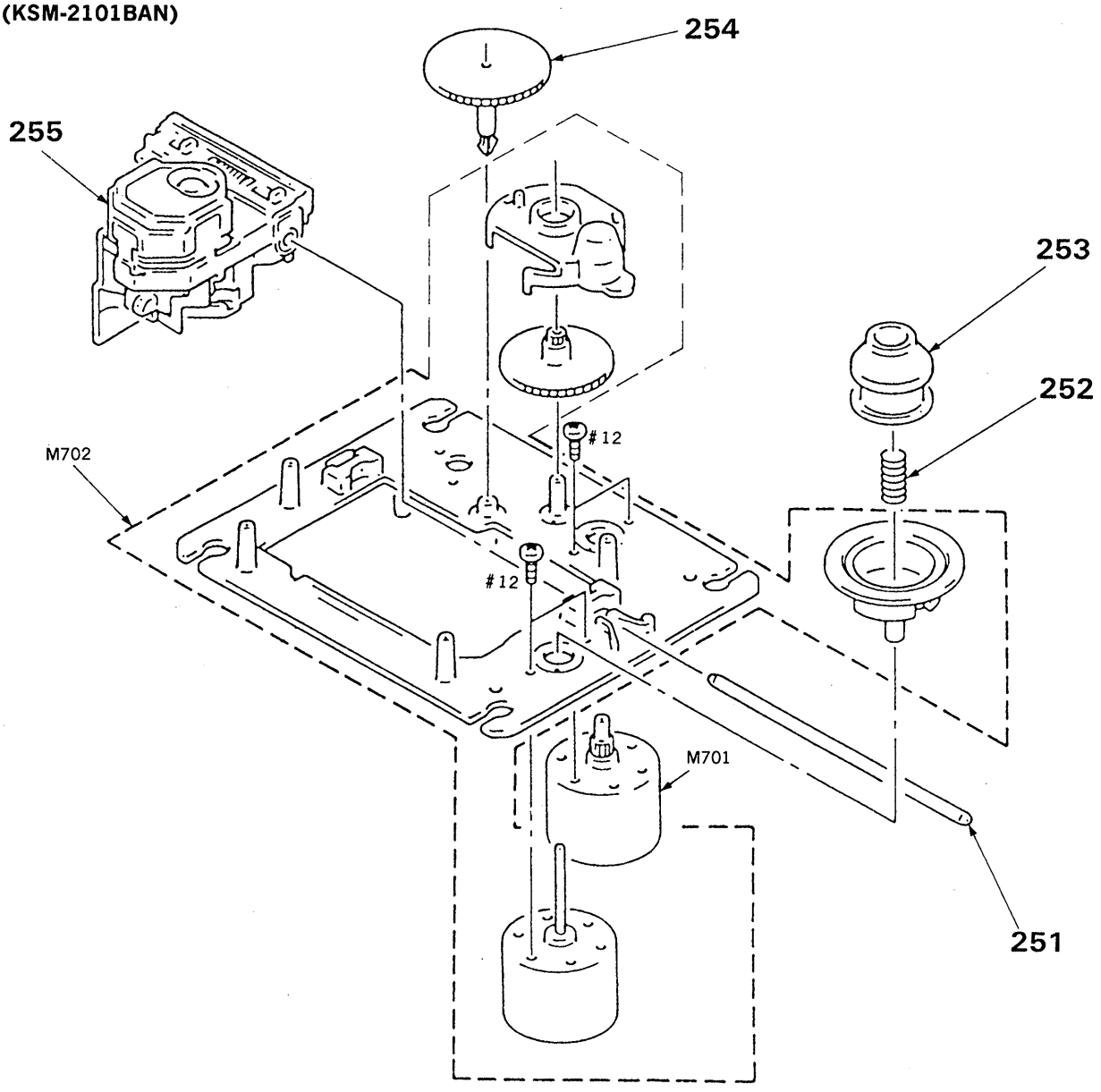
6-5. CD BLOCK SECTION



Ref. No.	Part No.	Description	Remark
201	1-452-531-11	MAGNET	
* 202	3-368-489-01	HOLDER, CHUCKING	
203	3-704-435-01	PLATE (M), CHUCK	
204	3-375-498-01	LATCH	
205	X-3366-756-1	LID ASSY, CD	
* 206	3-368-496-01	SPRING (1), CD UP	
207	3-387-284-01	LEVER, CD LIFT	
208	3-371-665-01	SPRING (CD LIFT)	
209	3-387-282-01	CABINET, UPPER	
210	3-351-377-01	DAMPER	

Ref. No.	Part No.	Description	Remark
211	4-931-757-31	SCREW(DIA. 2.6X8)(IT3B), TAPPING	
* 212	1-647-457-11	CD LEAF SW BOARD	
213	4-928-936-01	COVER, CD	
214	4-931-358-01	SPRING	
215	4-922-858-01	DAMPER	
216	4-922-858-11	DAMPER	
217	4-931-373-01	SCREW, CD FITTING	
* 218	1-647-456-11	CD MOTOR BOARD	
* 219	A-3264-262-A	CD MAIN BOARD, COMPLETE	

6-6. OPTICAL PICK-UP SECTION (KSM-2101BAN)



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
251	4-917-565-01	SHAFT, SLED	
252	2-625-191-01	SPRING, COMPRESSION	
253	2-625-186-01	RING (C), CENTER	
254	2-625-188-02	GEAR (A)	
⚠255	8-848-137-11	PICK-UP, OPTICAL KSS-210B	
M701	X-2625-132-1	MOTOR GEAR ASSY (MB) (SLED)	
M702	X-2625-133-1	MOTOR ASSY, SPINDLE (TT CHASSIS ASSY (MB))	

SECTION 7
ELECTRICAL PARTS LIST

AUDIO

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
*	A-3264-490-A	AUDIO BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
* BH301	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
		< CAPACITOR >			
C101	1-124-126-00	ELECT	47uF	20%	10V
C102	1-161-020-11	CERAMIC	0.039uF	10%	16V
C103	1-162-294-31	CERAMIC	0.001uF	10%	50V
C104	1-161-041-00	CERAMIC	0.0015uF	10%	16V
C105	1-124-902-00	ELECT	0.47uF	20%	50V
C106	1-162-294-31	CERAMIC	0.001uF	10%	50V
C107	1-124-902-00	ELECT	0.47uF	20%	50V
C108	1-162-282-31	CERAMIC	100PF	10%	50V
C109	1-124-903-11	ELECT	1uF	20%	50V
C110	1-162-294-31	CERAMIC	0.001uF	10%	50V
C111	1-162-844-11	CERAMIC	0.027uF	10%	16V
C112	1-124-903-11	ELECT	1uF	20%	50V
C113	1-161-377-00	CERAMIC	0.0047uF	30%	16V
C115	1-161-379-00	CERAMIC	0.01uF	20%	25V
C116	1-124-903-11	ELECT	1uF	20%	50V
C117	1-162-851-11	CERAMIC	0.1uF	10%	16V
C118	1-162-292-31	CERAMIC	680PF	10%	50V
C119	1-162-282-31	CERAMIC	100PF	10%	50V
C120	1-124-126-00	ELECT	47uF	20%	10V
C121	1-124-473-11	ELECT	1000uF	20%	10V
C122	1-124-443-00	ELECT	100uF	20%	10V
C123	1-136-165-00	FILM	0.1uF	5%	50V
C124	1-162-282-31	CERAMIC	100PF	10%	50V
C201	1-124-126-00	ELECT	47uF	20%	10V
C202	1-161-020-11	CERAMIC	0.039uF	10%	16V
C203	1-162-294-31	CERAMIC	0.001uF	10%	50V
C204	1-161-041-00	CERAMIC	0.0015uF	10%	16V
C205	1-124-902-00	ELECT	0.47uF	20%	50V
C206	1-162-294-31	CERAMIC	0.001uF	10%	50V
C207	1-124-902-00	ELECT	0.47uF	20%	50V
C208	1-162-282-31	CERAMIC	100PF	10%	50V
C209	1-124-903-11	ELECT	1uF	20%	50V
C210	1-162-294-31	CERAMIC	0.001uF	10%	50V
C211	1-162-844-11	CERAMIC	0.027uF	10%	16V
C212	1-124-903-11	ELECT	1uF	20%	50V
C213	1-161-377-00	CERAMIC	0.0047uF	30%	16V
C215	1-161-379-00	CERAMIC	0.01uF	20%	25V
C216	1-124-903-11	ELECT	1uF	20%	50V
C217	1-162-851-11	CERAMIC	0.1uF	10%	16V
C218	1-162-292-31	CERAMIC	680PF	10%	50V
C219	1-162-282-31	CERAMIC	100PF	10%	50V
C220	1-124-126-00	ELECT	47uF	20%	10V
C221	1-124-473-11	ELECT	1000uF	20%	10V
C222	1-124-443-00	ELECT	100uF	20%	10V
C223	1-136-165-00	FILM	0.1uF	5%	50V
C224	1-162-282-31	CERAMIC	100PF	10%	50V
C301	1-162-215-31	CERAMIC	47PF	5%	50V
C302	1-162-294-31	CERAMIC	0.001uF	10%	50V
C303	1-162-294-31	CERAMIC	0.001uF	10%	50V
C304	1-124-902-00	ELECT	0.47uF	20%	50V
C305	1-162-294-31	CERAMIC	0.001uF	10%	50V
C306	1-126-176-11	ELECT	220uF	20%	10V
C307	1-124-126-00	ELECT	47uF	20%	10V
C308	1-124-916-11	ELECT	22uF	20%	63V
C309	1-124-907-11	ELECT	10uF	20%	50V
C310	1-124-907-11	ELECT	10uF	20%	50V
C311	1-124-902-00	ELECT	0.47uF	20%	50V
C312	1-126-176-11	ELECT	220uF	20%	10V
C313	1-130-481-00	MYLAR	0.0068uF	5%	50V
C314	1-161-327-00	CERAMIC	0.0033uF	30%	16V
C315	1-124-126-00	ELECT	47uF	20%	10V
C316	1-124-907-11	ELECT	10uF	20%	50V
C317	1-124-034-51	ELECT	33uF	20%	16V
C318	1-124-902-00	ELECT	0.47uF	20%	50V
C319	1-162-847-11	CERAMIC	0.047uF	10%	16V
C320	1-162-847-11	CERAMIC	0.047uF	10%	16V
C321	1-124-902-00	ELECT	0.47uF	20%	50V
C322	1-124-464-11	ELECT	0.22uF	20%	50V
C323	1-124-034-51	ELECT	33uF	20%	16V
C324	1-126-157-11	ELECT	10uF	20%	16V
C325	1-162-282-31	CERAMIC	100PF	10%	50V
C326	1-126-157-11	ELECT	10uF	20%	16V

AUDIO

Ref. No.	Part No.	Description			Remark
C328	1-124-903-11	ELECT	1uF	20%	50V
C330	1-124-120-11	ELECT	220uF	20%	25V
C331	1-162-285-31	CERAMIC	180PF	10%	50V
C332	1-126-176-11	ELECT	220uF	20%	10V
C333	1-126-176-11	ELECT	220uF	20%	10V
C334	1-161-379-00	CERAMIC	0.01uF	20%	25V
C335	1-161-379-00	CERAMIC	0.01uF	20%	25V
C336	1-124-887-00	ELECT	3300uF	20%	16V
C340	1-126-176-11	ELECT	220uF	20%	10V
C341	1-124-472-11	ELECT	470uF	20%	10V
C342	1-161-379-00	CERAMIC	0.01uF	20%	25V
C343	1-161-379-00	CERAMIC	0.01uF	20%	25V
		< CONNECTOR >			
* CNP301	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
* CNP303	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P			
* CNP304	1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P			
* CNP305	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P			
* CNP306	1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P			
* CNP307	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
		< DIODE >			
D301-306					
	8-719-911-19	DIODE	1SS119		
D310	8-719-109-97	DIODE	RD6.8ES-B2		
D311	8-719-911-19	DIODE	1SS119		
D312	8-719-911-19	DIODE	1SS119		
D313	8-719-938-69	LED	GL3PR8 (OPR/BATT)		
D314	8-719-200-02	DIODE	10E2		
D315	8-719-911-19	DIODE	1SS119		
D316	8-719-109-89	DIODE	RD5.6ES-B2		
		< IC >			
IC301	8-759-164-45	IC	TA2036N		
IC302	8-759-048-60	IC	BA3870		
IC303	8-759-820-22	IC	LA4597		
		< JACK >			
J901	1-573-667-11	JACK, DC (POLAR UNITY TYPE) (DC IN 9V)			
		< INDUCTOR >			
L101	1-410-316-11	INDUCTOR	1uH		
L102	1-410-316-11	INDUCTOR	1uH		
L201	1-410-316-11	INDUCTOR	1uH		
L202	1-410-316-11	INDUCTOR	1uH		
L301	1-410-324-11	INDUCTOR	4.7uH		
L302	1-410-324-11	INDUCTOR	4.7uH		
L306	1-410-314-11	INDUCTOR	0.47uH		

Ref. No.	Part No.	Description			Remark
		< IC LINK >			
⚠PS901	1-532-686-21	LINK, IC (ICP-N75) 2.7A			
		< TRANSISTOR >			
Q101	8-729-900-74	TRANSISTOR	DTC143TS		
Q201	8-729-900-74	TRANSISTOR	DTC143TS		
Q301	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q302	8-729-921-65	TRANSISTOR	DTC143ES		
Q303	8-729-900-89	TRANSISTOR	DTC144ES		
Q304	8-729-900-89	TRANSISTOR	DTC144ES		
Q305	8-729-900-61	TRANSISTOR	DTA114ES		
Q306	8-729-900-67	TRANSISTOR	DTA124XS		
Q307	8-729-021-82	TRANSISTOR	2SD2396		
Q308	8-729-901-57	TRANSISTOR	DTC143XS		
Q310	8-729-021-82	TRANSISTOR	2SD2396		
		< RESISTOR >			
R101	1-249-404-00	CARBON	82	5%	1/4W
R102	1-249-423-11	CARBON	3.3K	5%	1/4W
R103	1-249-430-11	CARBON	12K	5%	1/4W
R104	1-247-862-11	CARBON	20K	5%	1/4W
R105	1-249-440-11	CARBON	82K	5%	1/4W
R106	1-249-425-11	CARBON	4.7K	5%	1/4W
R107	1-249-405-11	CARBON	100	5%	1/4W
R108	1-249-405-11	CARBON	100	5%	1/4W
R109	1-249-427-11	CARBON	6.8K	5%	1/4W
R110	1-249-429-11	CARBON	10K	5%	1/4W
R111	1-249-393-11	CARBON	10	5%	1/4W
R113	1-249-405-11	CARBON	100	5%	1/4W
R114	1-249-417-11	CARBON	1K	5%	1/4W
R115	1-247-903-00	CARBON	1M	5%	1/4W
R118	1-247-794-11	CARBON	30	5%	1/4W
R120	1-249-387-11	CARBON	3.3	5%	1/4W
R121	1-249-417-11	CARBON	1K	5%	1/4W
R201	1-249-404-00	CARBON	82	5%	1/4W
R202	1-249-423-11	CARBON	3.3K	5%	1/4W
R203	1-249-430-11	CARBON	12K	5%	1/4W
R204	1-247-862-11	CARBON	20K	5%	1/4W
R205	1-249-440-11	CARBON	82K	5%	1/4W
R206	1-249-425-11	CARBON	4.7K	5%	1/4W
R207	1-249-405-11	CARBON	100	5%	1/4W
R208	1-249-405-11	CARBON	100	5%	1/4W
R209	1-249-427-11	CARBON	6.8K	5%	1/4W
R210	1-249-429-11	CARBON	10K	5%	1/4W
R211	1-249-393-11	CARBON	10	5%	1/4W
R213	1-249-405-11	CARBON	100	5%	1/4W
R214	1-249-417-11	CARBON	1K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description				Remark
R215	1-247-903-00	CARBON	1M	5%	1/4W	
R218	1-247-794-11	CARBON	30	5%	1/4W	
R220	1-249-387-11	CARBON	3.3	5%	1/4W	
R221	1-249-417-11	CARBON	1K	5%	1/4W	
R301	1-247-903-00	CARBON	1M	5%	1/4W	
R302	1-249-426-11	CARBON	5.6K	5%	1/4W	
R303	1-249-429-11	CARBON	10K	5%	1/4W	
R304	1-249-429-11	CARBON	10K	5%	1/4W	
R305	1-249-389-11	CARBON	4.7	5%	1/4W	
R306	1-249-435-11	CARBON	33K	5%	1/4W	
R307	1-249-393-11	CARBON	10	5%	1/4W	
R309	1-249-429-11	CARBON	10K	5%	1/4W	
R310	1-249-425-11	CARBON	4.7K	5%	1/4W	
R311	1-249-401-11	CARBON	47	5%	1/4W	
R312	1-249-441-11	CARBON	100K	5%	1/4W	
R313	1-249-425-11	CARBON	4.7K	5%	1/4W	
R314	1-247-838-00	CARBON	2K	5%	1/4W	
R315	1-247-903-00	CARBON	1M	5%	1/4W	
⚠R316	1-219-149-11	FUSIBLE	1	5%	1/4W	F
⚠R317	1-219-149-11	FUSIBLE	1	5%	1/4W	F
R318	1-249-411-11	CARBON	330	5%	1/4W	
R319	1-249-437-11	CARBON	47K	5%	1/4W	
R322	1-247-818-11	CARBON	300	5%	1/4W	
R323	1-249-425-11	CARBON	4.7K	5%	1/4W	
R324	1-249-437-11	CARBON	47K	5%	1/4W	
R325	1-249-429-11	CARBON	10K	5%	1/4W	
R328	1-249-417-11	CARBON	1K	5%	1/4W	
R329	1-249-415-11	CARBON	680	5%	1/4W	
R330	1-249-410-11	CARBON	270	5%	1/4W	
		< VARIABLE RESISTOR >				
RV301	1-223-398-11	RES, VAR, CARBON 20K/20K (VOLUME)				
RV302	1-223-399-11	RES, VAR, CARBON 20K/20K (TONE)				
		< SWITCH >				
S301	1-692-483-11	SWITCH, ROTARY SLIDE (FUNCTION)				
S302	1-692-482-11	SWITCH, PUSH (REC/PB)				
S303	1-692-485-11	SWITCH, PUSH (1 KEY) (MEGA BASS)				
		< TRANSFORMER >				
T301	1-423-719-11	TRANSFORMER, BIAS OSCILLATION				

****

Ref. No.	Part No.	Description				Remark
*	1-647-460-11	CD CONTROL BOARD				
		**********				
*	3-388-102-01	BRACKET (LCD)				
		< CONNECTOR >				
CN801	1-563-630-11	CONNECTOR, FLEXIBLE 27P				
		< LIQUID CRYSTAL DISPLAY >				
LCD801	1-810-088-11	LCD				
		< SWITCH >				
S801	1-692-014-11	SWITCH, KEY BOARD (▷ PLAY)				
S802	1-692-014-11	SWITCH, KEY BOARD (□ STOP)				
S803	1-692-014-11	SWITCH, KEY BOARD (AMS/SEARCH ⏮)				
S804	1-692-014-11	SWITCH, KEY BOARD (AMS/SEARCH ⏭)				
S805	1-692-014-11	SWITCH, KEY BOARD (❚❚ PAUSE)				
S806	1-692-014-11	SWITCH, KEY BOARD (PLAY MODE)				
S807	1-692-014-11	SWITCH, KEY BOARD (DISPLAY/ENTER)				

****

Ref. No.	Part No.	Description				Remark
*	1-647-457-11	CD LEAF SW BOARD				
		**********				
		< CONNECTOR >				
* CN707	1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P				
		< SWITCH >				
S704	1-570-013-11	SWITCH, LEAF (OPEN/CLOSE)				

****

Ref. No.	Part No.	Description				Remark
*	A-3264-262-A	CD MAIN BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C700	1-136-173-00	FILM	0.47uF	5%	50V	
C701	1-124-443-00	ELECT	100uF	20%	10V	
C702	1-124-034-51	ELECT	33uF	20%	16V	
C703	1-124-034-51	ELECT	33uF	20%	16V	
C704	1-136-165-00	FILM	0.1uF	5%	50V	
C705	1-136-165-00	FILM	0.1uF	5%	50V	
C706	1-124-907-11	ELECT	10uF	20%	50V	
C707	1-131-368-00	TANTALUM	3.3uF	10%	16V	
C708	1-130-489-00	MYLAR	0.033uF	5%	50V	
C709	1-123-382-00	ELECT	3.3uF	20%	100V	
C711	1-130-493-00	MYLAR	0.068uF	5%	50V	
C712	1-124-477-11	ELECT	47uF	20%	25V	
C713	1-162-851-11	CERAMIC	0.1uF		16V	
C714	1-162-215-31	CERAMIC	47PF	5%	50V	

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CD MAIN

Ref. No.	Part No.	Description			Remark
C716	1-130-489-00	MYLAR	0.033uF	5%	50V
C717	1-124-477-11	ELECT	47uF	20%	25V
C718	1-162-306-11	CERAMIC	0.01uF	20%	16V
C719	1-130-489-00	MYLAR	0.033uF	5%	50V
C720	1-130-475-00	MYLAR	0.0022uF	5%	50V
C721	1-161-494-00	CERAMIC	0.022uF		25V
C722	1-162-306-11	CERAMIC	0.01uF	20%	16V
C723	1-162-306-11	CERAMIC	0.01uF	20%	16V
C724	1-130-489-00	MYLAR	0.033uF	5%	50V
C725	1-136-165-00	FILM	0.1uF	5%	50V
C726	1-162-294-31	CERAMIC	0.001uF	10%	50V
C727	1-130-491-00	MYLAR	0.047uF	5%	50V
C728	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C729	1-136-173-00	FILM	0.47uF	5%	50V
C730	1-162-306-11	CERAMIC	0.01uF	20%	16V
C731	1-102-942-00	CERAMIC	5PF	0.5PF	50V
C732	1-102-942-00	CERAMIC	5PF	0.5PF	50V
C733	1-124-902-00	ELECT	0.47uF	20%	50V
C734	1-124-907-11	ELECT	10uF	20%	50V
C735	1-124-034-51	ELECT	33uF	20%	16V
C736	1-124-927-11	ELECT	4.7uF	20%	100V
C737	1-162-285-31	CERAMIC	180PF	10%	50V
C744	1-162-306-11	CERAMIC	0.01uF	20%	16V
C745	1-124-034-51	ELECT	33uF	20%	16V
C746	1-124-927-11	ELECT	4.7uF	20%	100V
C747	1-162-285-31	CERAMIC	180PF	10%	50V
C752	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C754	1-162-851-11	CERAMIC	0.1uF		16V
C755	1-162-290-31	CERAMIC	470PF	10%	50V
C756	1-162-306-11	CERAMIC	0.01uF	20%	16V
C757	1-136-173-00	FILM	0.47uF	5%	50V
C758	1-162-851-11	CERAMIC	0.1uF		16V
C759	1-162-294-31	CERAMIC	0.001uF	10%	50V
C760	1-162-851-11	CERAMIC	0.1uF		16V
C761	1-124-442-00	ELECT	330uF	20%	6.3V
C762	1-124-473-11	ELECT	1000uF	20%	10V
C763	1-162-294-31	CERAMIC	0.001uF	10%	50V
C770	1-124-477-11	ELECT	47uF	20%	25V
C771	1-162-294-31	CERAMIC	0.001uF	10%	50V
C772	1-130-484-00	MYLAR	0.012uF	5%	50V
C773	1-161-329-00	CERAMIC	0.0068uF	20%	16V
C774	1-130-491-00	MYLAR	0.047uF	5%	50V
C801	1-124-034-51	ELECT	33uF	20%	16V
C802	1-124-902-00	ELECT	0.47uF	20%	50V
C803	1-162-306-11	CERAMIC	0.01uF	20%	16V
C804	1-136-169-00	FILM	0.22uF	5%	50V
C806	1-162-306-11	CERAMIC	0.01uF	20%	16V

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
* CN701	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
* CN702	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
* CN703	1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P			
* CN704	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P			
* CN705	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P			
* CN709	1-569-943-11	SOCKET, CONNECTOR 27P			
		< DIODE >			
D701	8-719-911-19	DIODE	1SS119		
D704-706	8-719-911-19	DIODE	1SS119		
		< IC >			
IC701	8-752-039-03	IC	CXA1421M		
IC702	8-752-058-77	IC	CXA1372AQ		
IC703	8-752-352-93	IC	CXD2500BQ		
IC704	8-759-148-30	IC	uPD6376		
IC705	8-759-503-98	IC	SM5840DS		
IC706	8-759-518-59	IC	BA6296FP		
IC801	8-752-830-87	IC	CXP5084H-636Q		
IC802	8-759-971-12	IC	PST529E		
		< INDUCTOR >			
L701	1-410-509-11	INDUCTOR	10uH		
		< TRANSISTOR >			
Q701	8-729-801-84	TRANSISTOR	2SB1013-4		
Q702	8-729-900-63	TRANSISTOR	DTA124ES		
Q703	8-729-904-39	TRANSISTOR	DTC114TS		
Q704	8-729-902-80	TRANSISTOR	DTA114YS		
Q731	8-729-900-74	TRANSISTOR	DTC143TS		
Q741	8-729-900-74	TRANSISTOR	DTC143TS		
Q801	8-729-900-63	TRANSISTOR	DTA124ES		
Q802	8-729-900-89	TRANSISTOR	DTC144ES		
		< RESISTOR >			
R700	1-247-806-11	CARBON	91	5%	1/4W
R701	1-249-397-11	CARBON	22	5%	1/4W
R702	1-249-433-11	CARBON	22K	5%	1/4W
R705	1-249-441-11	CARBON	100K	5%	1/4W
R706	1-249-438-11	CARBON	56K	5%	1/4W
R707	1-247-885-00	CARBON	180K	5%	1/4W
R708	1-249-432-11	CARBON	18K	5%	1/4W
R709	1-249-437-11	CARBON	47K	5%	1/4W
R710	1-249-417-11	CARBON	1K	5%	1/4W
R711	1-247-896-11	CARBON	510K	5%	1/4W

Ref. No.	Part No.	Description				Remark
R712	1-247-883-00	CARBON	150K	5%	1/4W	
R713	1-249-429-11	CARBON	10K	5%	1/4W	
R714	1-249-417-11	CARBON	1K	5%	1/4W	
R715	1-247-887-00	CARBON	220K	5%	1/4W	
R716	1-249-429-11	CARBON	10K	5%	1/4W	
R717	1-249-423-11	CARBON	3.3K	5%	1/4W	
R718	1-247-881-00	CARBON	120K	5%	1/4W	
R719	1-249-423-11	CARBON	3.3K	5%	1/4W	
R720	1-247-856-00	CARBON	11K	5%	1/4W	
R721-723						
	1-249-441-11	CARBON	100K	5%	1/4W	
R724	1-249-417-11	CARBON	1K	5%	1/4W	
R725	1-249-433-11	CARBON	22K	5%	1/4W	
R726	1-249-417-11	CARBON	1K	5%	1/4W	
R727	1-249-441-11	CARBON	100K	5%	1/4W	
R728	1-249-437-11	CARBON	47K	5%	1/4W	
R729	1-249-417-11	CARBON	1K	5%	1/4W	
R730	1-249-417-11	CARBON	1K	5%	1/4W	
R731	1-249-429-11	CARBON	10K	5%	1/4W	
R732	1-249-429-11	CARBON	10K	5%	1/4W	
R737	1-247-883-00	CARBON	150K	5%	1/4W	
R741	1-249-429-11	CARBON	10K	5%	1/4W	
R742	1-249-429-11	CARBON	10K	5%	1/4W	
R761	1-249-435-11	CARBON	33K	5%	1/4W	
R762	1-249-429-11	CARBON	10K	5%	1/4W	
R763	1-249-429-11	CARBON	10K	5%	1/4W	
R764	1-249-435-11	CARBON	33K	5%	1/4W	
R765	1-247-838-00	CARBON	2K	5%	1/4W	
R766	1-249-437-11	CARBON	47K	5%	1/4W	
R767	1-249-433-11	CARBON	22K	5%	1/4W	
⚠R769	1-212-861-11	FUSIBLE	15	5%	1/4W	F
R801	1-249-405-11	CARBON	100	5%	1/4W	
R802	1-249-405-11	CARBON	100	5%	1/4W	
R803	1-249-437-11	CARBON	47K	5%	1/4W	
R804-806						
	1-249-435-11	CARBON	33K	5%	1/4W	
R807	1-249-441-11	CARBON	100K	5%	1/4W	
R809	1-249-437-11	CARBON	47K	5%	1/4W	
R811	1-249-441-11	CARBON	100K	5%	1/4W	

< VARIABLE RESISTOR >

RV701	1-230-497-11	RES, ADJ, CARBON 22K
RV702	1-237-288-11	RES, ADJ, CARBON 47K
RV703	1-230-497-11	RES, ADJ, CARBON 22K
RV704	1-230-497-11	RES, ADJ, CARBON 22K

< VIBRATOR >

X801	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)
XF701	1-579-345-11	VIBRATOR, CERAMIC (16.934MHz)

Ref. No.	Part No.	Description	Remark
*	1-647-456-11	CD MOTOR BOARD	
		**********	
		< CONNECTOR >	
* CN706	1-566-003-11	PIN, CONNECTOR (PC BOARD) 6P	
		< SWITCH >	
S703	1-571-936-11	SWITCH, LEAF (LIMIT)	
**********			
*	1-647-455-11	H/P MIC BOARD	
		**********	
		< CONNECTOR >	
* CNP302	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P	
* CNP311	1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P	
* CNP312	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
		< JACK >	
J301	1-563-330-11	JACK (MIX MIC)	
J302	1-566-891-11	JACK (PHONES)	
		< RESISTOR >	
R116	1-249-404-00	CARBON 82 5% 1/4W	
R216	1-249-404-00	CARBON 82 5% 1/4W	
**********			
*	1-645-055-21	HEAD RELAY BOARD	
		**********	
*	1-566-001-11	PIN, CONNECTOR (PC BOARD) 4P	
*	1-750-166-11	HOUSING, CONNECTOR 5P	
	3-309-597-81	SCREW (1.4), TAPPING	
	3-328-432-01	WASHER, STOPPER	
	3-344-737-11	SCREW (B1.4X6), TAPPING	
	3-374-342-01	SPRING (HEAD), TORSION	
	3-374-344-01	GUIDE, ERASE HEAD	
	3-374-345-01	SPRING, TENSION	
*	3-374-370-01	SLIDER (HD)	
*	3-381-657-01	CHASSIS, HEAD	
*	3-381-658-02	GEAR (BASE), HEAD	
	3-381-660-01	LEVER (FAN-SHAPED)	
	3-386-829-01	SPRING, TENSION	
	7-621-255-65	SCREW +PTT 2X10 (S)	
		< HEAD >	
HE601	1-543-719-11	HEAD, MAGNETIC (ERASE)	
HRP601	1-500-013-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
**********			

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MD **TUNER**

Ref. No.	Part No.	Description			Remark
*	1-647-459-11	MD BOARD			
		********			
		< CAPACITOR >			
C601	1-161-379-00	CERAMIC	0.01uF	20%	25V
C602	1-161-379-00	CERAMIC	0.01uF	20%	25V
		< CONNECTOR >			
* CNP601	1-506-998-11	PIN, CONNECTOR (PC BOARD) 2P			
* CNP602	1-506-998-11	PIN, CONNECTOR (PC BOARD) 2P			
* CNP603	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P			
		< DIODE >			
D601	8-719-911-19	DIODE 1SS119			
		< INDUCTOR >			
L303-305					
	1-410-324-11	INDUCTOR	4.7uH		
		< TRANSISTOR >			
Q601	8-729-801-84	TRANSISTOR 2SB1013-4			
Q602	8-729-423-07	TRANSISTOR UN411H-TA			
Q603	8-729-902-80	TRANSISTOR DTA114YS			
		< RESISTOR >			
R601	1-249-437-11	CARBON	47K	5%	1/4W
R602	1-249-425-11	CARBON	4.7K	5%	1/4W
		< SWITCH >			
S601	1-571-890-11	SWITCH, LEAF (POWER)			
S602	1-571-890-11	SWITCH, LEAF (FF/REW PAUSE)			
S604	1-571-890-11	SWITCH, LEAF (PB ON)			
**********					
*	A-3264-351-A	TUNER BOARD, COMPLETE			
		**********			
	1-533-233-11	HOLDER, FUSE			
	3-387-313-01	HOLDER, LED			
		< CAPACITOR >			
C2	1-162-282-31	CERAMIC	100PF	10%	50V
C3	1-161-379-00	CERAMIC	0.01uF	20%	25V
C4	1-124-907-11	ELECT	10uF	20%	50V
C5	1-161-379-00	CERAMIC	0.01uF	20%	25V
C6	1-164-039-11	CERAMIC	3PF	0.25PF	50V
C7	1-164-028-11	CERAMIC	24PF	5%	50V
C8	1-102-960-00	CERAMIC	24PF	5%	50V
C9	1-102-943-00	CERAMIC	6PF	0.5PF	50V
C10	1-164-012-11	CERAMIC	3PF	0.25PF	50V
C11	1-161-379-00	CERAMIC	0.01uF	20%	25V
C14	1-161-379-00	CERAMIC	0.01uF	20%	25V
C15	1-124-927-11	ELECT	4.7uF	20%	100V
C16	1-124-903-11	ELECT	1uF	20%	50V
C17	1-124-126-00	ELECT	47uF	20%	10V
C18	1-124-126-00	ELECT	47uF	20%	10V
C19	1-161-379-00	CERAMIC	0.01uF	20%	25V
C20	1-124-903-11	ELECT	1uF	20%	50V
C21	1-124-925-11	ELECT	2.2uF	20%	100V
C22	1-124-472-11	ELECT	470uF	20%	10V
C23	1-124-902-00	ELECT	0.47uF	20%	50V
C24	1-124-927-11	ELECT	4.7uF	20%	100V
C27	1-161-053-00	CERAMIC	0.015uF	10%	50V
C28	1-161-053-00	CERAMIC	0.015uF	10%	50V
C29	1-162-851-11	CERAMIC	0.1uF	10%	16V
C30	1-162-851-11	CERAMIC	0.1uF	10%	16V
C32	1-162-282-31	CERAMIC	100PF	10%	50V
C34	1-124-903-11	ELECT	1uF	20%	50V
C35	1-162-282-31	CERAMIC	100PF	10%	50V
		< FILTER >			
CF1-3					
	1-577-599-81	FILTER, CERAMIC			
		< CONNECTOR >			
* CNP1	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
		< ENCAPSULATED COMPONENT >			
CP1	1-239-724-21	ENCAPSULATED COMPONENT			
		< VARIABLE CAPACITOR >			
CT1-4 CV1-4	1-151-624-11	CAP, VARIABLE (TUNING)			
		< DIODE >			
D1	8-719-911-19	DIODE 1SS119			
D2	8-719-911-19	DIODE 1SS119			
D11	8-719-042-67	LED SLR-33VR3F (FM ST)			
		< FILTER >			
FL1	1-236-711-21	FILTER, BAND PASS			
		< IC >			
IC1	8-752-050-20	IC CXA1238S			

Ref. No.	Part No.	Description			Remark
		< COIL >			
L1	1-420-855-00	COIL, FM ANT			
L2	1-406-161-11	COIL, FM OSCILLATOR			
L3	1-402-416-11	ANTENNA, FERRITE-ROD (AM)			
		< TRANSISTOR >			
Q1	8-729-422-74	TRANSISTOR UN4213			
		< RESISTOR >			
R3	1-249-421-11	CARBON	2.2K	5%	1/4W
R4	1-249-397-11	CARBON	22	5%	1/4W
R6	1-249-441-11	CARBON	100K	5%	1/4W
R10	1-249-397-11	CARBON	22	5%	1/4W
R11	1-249-427-11	CARBON	6.8K	5%	1/4W
R12	1-249-427-11	CARBON	6.8K	5%	1/4W
R13	1-249-410-11	CARBON	270	5%	1/4W
R14	1-249-429-11	CARBON	10K	5%	1/4W
R15	1-247-887-00	CARBON	220K	5%	1/4W
R16	1-247-887-00	CARBON	220K	5%	1/4W
R17	1-249-421-11	CARBON	2.2K	5%	1/4W
R18	1-249-425-11	CARBON	4.7K	5%	1/4W
R19	1-249-415-11	CARBON	680	5%	1/4W
R20	1-249-423-11	CARBON	3.3K	5%	1/4W
		< VARIABLE RESISTOR >			
RV1	1-238-601-11	RES, ADJ, CARBON 22K			
		< COIL >			
T1	1-406-464-21	COIL (OSC)			

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MISCELLANEOUS

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7	1-751-232-11	WIRE, PARALLEL (FFC) (27 CORE)
201	1-452-531-11	MAGNET
⚠255	8-848-137-11	PICK-UP, OPTICAL KSS-210B
ANT1	1-501-542-11	ANTENNA, TELESCOPIC
M601	A-3253-181-A	MOTOR ASSY (INCLUDING PULLEY, RV401)
M701	X-2625-132-1	MOTOR GEAR ASSY (MB) (SLED)
M702	X-2625-133-1	MOTOR ASSY, SPINDLE (TT CHASSIS ASSY (MB))
S603	1-570-559-11	SWITCH, LEAF (DIR)
SP801	1-503-631-11	SPEAKER
SP802	1-503-631-11	SPEAKER

****

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-467-114-11	ADAPTOR, AC (AC-970)	
*	3-704-301-01	BAG (STANDARD), PROTECTION	
	3-756-686-21	MANUAL, INSTRUCTION (ENGLISH) (US, Canadian)	
	3-756-686-31	MANUAL, INSTRUCTION (FRENCH) (Canadian)	
*	3-904-196-01	CUSHION (L)	
*	3-904-197-01	CUSHION (R)	
*	3-904-198-01	INDIVIDUAL CARTON	

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HARDWARE LIST

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#1	7-685-648-79	SCREW, TAPPING +BV 3X12
#2	7-685-647-79	SCREW, TAPPING +BV 3X10
#3	7-685-153-19	SCREW +BTP 3X30 TYPE2 N-S
#4	7-685-646-79	SCREW, TAPPING
#5	7-621-775-20	SCREW +B 2.6X5
#6	7-685-133-19	SCREW +P 2.6X6 TYPE2
#7	7-682-549-04	SCREW +B 3X10
#8	7-682-553-04	SCREW +BVTT 3X20 (S)
#9	7-621-255-65	SCREW +PTT 2X10 (S)
#10	7-621-772-00	SCREW +B 2X3
#11	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT
#12	7-621-255-15	SCREW +P 2X3

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

9-957-778-11

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General Audio Group

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